

American Artisan

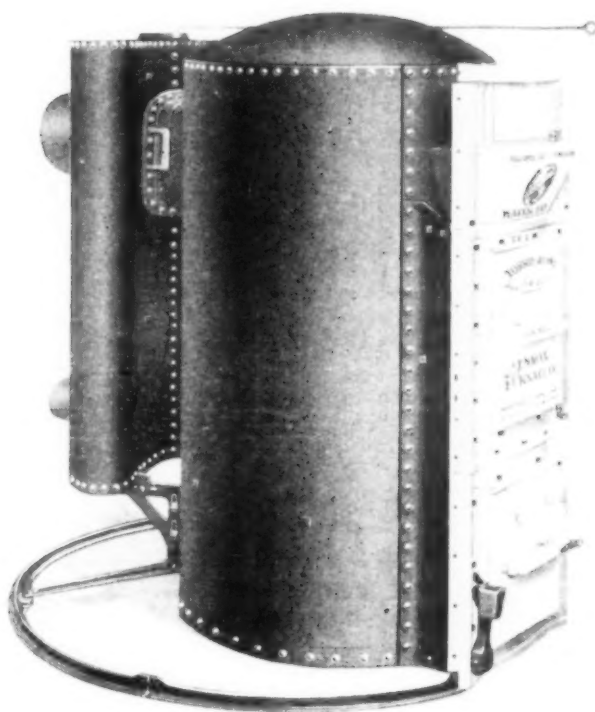
Founded 1880

The Warm Air Heating and Sheet Metal Journal

Vol. 95, No. 25

CHICAGO, JUNE 23, 1928

\$2.00 Per Year



Torridd Zone Steel Furnace
The Torridd Zone Steel Furnace
is a new type of furnace
which can be installed
in any building and will
heat the building and
boiler room with a
minimum of fuel.

The New 1928

Torridd Zone Steel Furnace

has made it possible for us to again break our sales record for the first six months of this year as compared with any previous year. More new carload dealers have taken on the TORRID ZONE furnace already this year than any other twelve month period.

Most furnace manufacturers have had to curtail production for want of orders but TORRID ZONE dealers through their increased sales have forced us to keep up our expansion program. Investigate the reason.

Lennox Furnace Company, Inc.

*Marshalltown Iowa * * * Syracuse New York*

WORLD'S LARGEST MANUFACTURERS OF STEEL FURNACES

From a 4 Room Cottage to the 32 Room 3 Story Home



Homer Furnace Co.,
Coldwater, Mich.

Attention: Mr. C. Bruce Strong.

Gentlemen:

We have now gone through two testing seasons with the new Homer line—Grands, Aces and Steel Kings. The improvements all we any through have left their mark in greater volume with diminishing sales resistance, fewer service calls and complete satisfaction to the users.

Certainly it's a pleasure to distribute merchandise built by a Company that works with us all along the line as you do—constant betterment of the product, less complicated finance plan, provision of all needed advertising and general prompt and courteous co-operation.

We feel that with the Homer Grand, the Homer Ace and the Steel King we have a line of furnaces, with which we can go after every class of trade. We have been in the past year pleased with the results of our efforts and with our many installations. We have heated from the thirty-two room three-story house to the four-room cottage.

With kindest regards, we are

J. B. Moore
J. B. Moore



J. B. MOORE



V. E. BELL

The name "Belmore" represents two progressive furnace men whose selection of a Homer Agency contract has proved very profitable.

And It's HOMER Heat That Does It



HOMER "GRAND"

Residents of Durham and Raleigh, N. C., have been the recipients of healthful heat in every room of their homes because of the consistent performance which a Homer warm air furnace renders. It's a real "act of service" to a community to connect with a Homer Agency contract. The Homer popularity is due to the detailed perfection of this heating unit as it complies with the Standard Code of Heating. Write today for detailed information about what this contract will do for you.



HOMER "ACE"

HOMER FURNACE CO., Coldwater, Michigan, U. S. A.

Capacity over
30,000 Furnaces
Annually

*"What's home
without a Homer"*

There's Harmony
in Homer Heated
Homes

The **INSIDE STORY** of a Great Heating Success

**Square
Outside
for
Beauty**



**Round
Inside
for
Efficiency**

Cut out view of new Richardson "Perfect" Square Cased Warm Air Heater, showing round interior construction.

HERE'S a heater *born* to conquer. It inherits the heating ability of a long line of Richardson & Boynton Warm Air Heaters. Under its handsome, modern casing is the time-tested round heater, with the round fire pot and all the *proven* advantages of round interior construction. The same conservative ratings, too. The outer casing means extra insulation as well as greater beauty.

With such good looks, and such a pedigree of performance, how could this new Square Cased Warm Air Heater help going over like a Blue Streak!

This company believes in utmost protection to the dealer—the logical link between manufacturer and consumer.

RICHARDSON & BOYNTON Co

Manufacturers of "Richardson" "Perfect" Heating and Cooking Apparatus Since 1837

260 Fifth Ave.

New York City

New York Utica Newark Philadelphia Boston Chicago Buffalo Minneapolis Cincinnati Pittsburgh Detroit Providence

Published Weekly by American Artisan and Hardware Record, Inc., 620 South Michigan Avenue, Chicago, Illinois.
AMERICAN ARTISAN—the Warm Air Heating and Sheet Metal Journal—entered as second class matter, March 26, 1926, at the Post Office at Chicago, Illinois, under act of March 3, 1879. Formerly entered on June 25, 1887 as American Artisan and Hardware Record.

Cuts Costs, —yours, too

The big improvements of the new Series "C" Moncrief Furnace that cut the cost of heating for the houseowner, cut the cost of selling for you.

Installing costs are cut too. In the Series "C", joints inside the casing are reduced to a minimum and all contact edges are ground and fitted before shipment.

Write for the particulars

The Henry Furnace & Foundry Co.
3471 E. 49th St., Cleveland, O.

DISTRIBUTORS:

Carr Supply Co., 412 No. Dearborn St., Chicago, Ill.
August Bery & Son, Mack Ave. at Drexel, Detroit
The Henry Furnace & Foundry Co., Pittsburgh, Pa.
Frontier Water & Steam Supply Co., 366 Oak St.—
481 Elliott St., Buffalo, New York.



Johnson Furnace Co.,
Kansas City, Mo.
E. A. Higgins Co., 1112
Douglas St., Omaha, Neb.
Moncrief Furnace Co.,
Atlanta, Ga.
Moncrief Furnace &
Mfg. Co., Dallas, Texas.
E. W. Burbank Seed Co.
29 Free St., Portland, Me.
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Warehouse, Troy, N. Y.
Wilkes-Barre Hdwe. &
Stove Co., 18-20 So.
Washington St., Wilkes-
Barre, Pa.
The Crawford Heating
Co., Steubenville, Ohio.
The Henry Furnace &
Fdy. Co., 923 Summit
St., Toledo, Ohio.

EASTERN OFFICE
Room 1306, 11 W. 42nd
St., New York City
E. L. Garner, Manager

MONCRIEF FURNACES

Measured Dependability

DEPENDABILITY in heating capacity is determined by grate area and heating surface. Only by measuring the diameter of the grate itself can the furnace buyer determine heating capacity. The American will prove by rule to be full-proportioned.

The American Self-Cleaning Furnace is massively constructed to assure efficiency, stability, and permanence.

WE HELP YOU SELL.

We offer you the two essentials for successful selling:

1. A complete line of quality heating units.
2. Dealer helps in advertising.



PROGRESSIVE AMERICAN FEATURES

- | | |
|----------------------------|--------------------------------------|
| 1. Self-Cleaning | 7. Large Double Fuel Door |
| 2. Covered Joints | 8. Two-piece Slotted Firepot |
| 3. Feed Section Thru Front | 9. Full-proportioned |
| 4. Ball-bearing Grates | 10. Entire Grate Removed thru Ashpit |
| 5. Deep, Roomy Ash-pit | |
| 6. Large Ashpit Door | |

Write for Catalog and Prices
Dept. 300

**The American Foundry and
Furnace Co.**
Bloomington, Illinois

Heating Merchants Who are Genuinely interested in Increasing Profits Will find the Opportunity in the Sunbeam 4 Point Selling Plan



YOU can get some of the money being spent for Motor Cars, Radio and Refrigerators

Convenient time payments and aggressive selling methods—this explains why so many of the dollars that should have been spent for new, modern heating systems have found their way into hands of dealers who sell commodities and luxuries not nearly as essential as adequate heating.

With the Sunbeam 4 Point Selling Plan, you can now completely change this situation. You can compete for home owners' purchases on equal or better terms than dealers in other lines of business.

With the new Sunbeam Deferred Payment

Plan, purchasers have as long as two years to pay, at unusually low carrying charges. Or, if a down payment is made in June, the first monthly installment can be deferred until September.

The new Sunbeam Warm-Air Furnaces, 1000 Series, give your prospects Warm-Air Heating at its best. And the Miniature Aluminum Furnace helps you show prospects why this heating plant is better—helps you close sales.

Obtain the whole story about the Sunbeam 4 Point Selling Plan. Return the coupon. You will be well repaid for your interest.

THE FOX FURNACE COMPANY, ELYRIA, OHIO

Largest Makers of Heating Equipment in the World

SUNBEAM
WARM-AIR HEATING

The Fox Furnace Co.,
Elyria, Ohio.

Please send us full details about the Sunbeam
4 Point Selling Plan. Also send a copy of the
40-page Catalog and Heating Manual.

Name
Address
City and State A-7

Mention *AMERICAN ARTISAN* in your reply—Thank you!

How High Is Up?

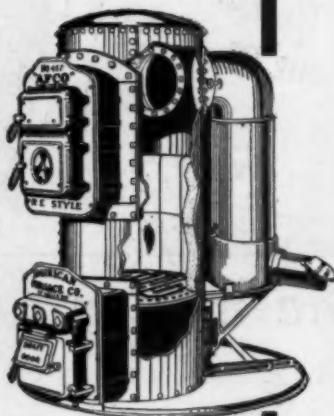


HOW high is up and what is the top price that a dealer can obtain for a furnace? Both are matters of opinion.

Many dealers believe that a furnace priced higher than the standard competitive lines is difficult to sell. This is a fallacy.

"AFCO" Boiler Plate furnaces have so many exclusive sales advantages they are easy to sell and the fine heating qualities keep them sold. Every owner of an "AFCO" becomes a booster for the installer.

The "AFCO Sales Guide" points the way to a larger and more profitable heating business. Send for your free copy of this booklet today. Mail the coupon.



American Furnace Co.

St. Louis, Mo.

P. S.—The office boy says the answer to—"How high is up?"—is—"Twice as far as half way up"—fair enough.

American Furnace Co.
St. Louis, Mo.

A. A.

Please send a FREE copy of your "Sales Guide" showing the way to a bigger and more profitable business.

Name.....

Address.....

WISE The Better Furnaces

New WISE Improvements



WISE OPEN DOME CAST FURNACE

THE New Wise Open Dome is improved with the Wise Cellular Firepot.

It is One-Piece and heavily constructed.

It has a series of air cells which extend from bottom to top which enable the air to become pre-heated before entering above and into the fuel. This supplies a continuous and evenly distributed air blast.

Another feature is the Elbow Shaped Flue Collar on Inside of Radiator which is turned up so all of the heat must follow the castings to the top before entering flue.



WISE 20 SERIES CAST FURNACE

New WISE Ideas

THE Famous Wise 20 Series has added still more fame for itself since this new Patented radiator appeared.

The feed chamber and the top radiator are so constructed as to allow communication between them which brings the opening of the fire flues of the radiator directly into the feed chamber, making the flues readily accessible for cleaning through the upper feed door. The dirt falls directly into the fire-pot, eliminating the necessity of taking the soot out by means of a narrow neck passage. This is a big advantage to the owner as a radiator that is easy to keep clean will be kept clean. And this means increased heating efficiency. This improved Wise furnace has a New Cellular Fire Pot that provides complete combustion.

a New Steel Furnace



WISE STEEL FURNACE

To enable you to confine your quality furnace business to one house the Wise Steel Furnace was created. Notice that the Wise Steel Furnace is a better steel furnace having features that make it last longer where others have weak spots.

The bottom of the radiator on the Wise Steel Furnace has a Cast Iron Soot Box and Clean Out.

This you know is the big weak spot in other steel furnaces. The Wise Steel Furnace like all Wise furnaces is Guaranteed high quality. It possesses all the latest scientific heating features and all modern conveniences. It is riveted and welded and has special design grates.

Write for the new Wise catalog, No. 23, just out and special circulars illustrating these New Wise Furnaces and features in detail. Be a Wise dealer now and for all time.

The Wise Furnace Company

AKRON, OHIO

Number
3
of a series
of
Advertisements

BOLTED CONSTRUCTION—

*isn't good enough
for the*

Weir

[the QUALITY Steel Furnace
now in its 46th year]

Steel Furnace

*That's why
the WEIR
Furnace is
riveted
thruout,
including
attaching
castings
to steel*



THIS CONSTRUCTION FEATURE IS NOT TO BE FOUND IN ANY OTHER FURNACE ON THE MARKET, BUT IS EXCLUSIVE IN THE WEIR

IN this construction 7/16" rivets are used, placed two inch centers and set by powerful pneumatic machines, exerting a maximum force of twenty tons with 100 pounds air pressure, thus making the most secure joint possible of production--and most permanent and lasting, too, as is proven by the numberless WEIR Furnaces installed upwards of thirty years ago, in which this joint remains as tight as ever.

THIS is only ANOTHER exclusive feature of the WEIR furnace that has won for it its present position of leadership in the steel furnace industry.

Because it is a better furnace it is a more profitable one to handle. May we show you "how" and "why"?

The MEYER FURNACE CO.
Peoria, Illinois

A NEW HORIZONTAL TUBULAR HEATER



FOR SCHOOLS,
CHURCHES, GARAGES,
RESIDENCES, OR ANY
LARGE BUILDING—
**JUST THE THING FOR
A FAN SYSTEM.**

A heavy, durable and powerful heater of exceptional merit that will be sold only through the trade.

**OUR ENGINEERING
DEPARTMENT** will help
you, and there is a large
and profitable field in this
class of work.

Write for Printed Matter, Prices and Complete Information Today

Floral City Heater Co.

Chicago Office
1654 Monadnock Building

MONROE, MICHIGAN

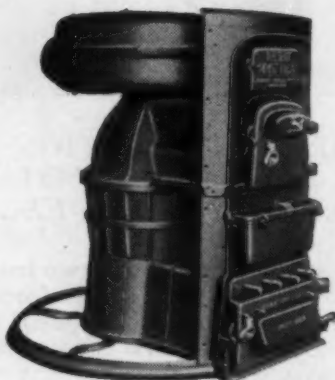
Detroit Office
4453 Cass Avenue

Announcing—

A New and Better furnace

In the NEW
NESBIT
"Moist Heat"
(Registered)
Furnace

You will find many outstanding selling points, not to be found on any others, and in addition all of the modern features of construction so necessary to the up-building of a successful and lasting heating business.



*Write for Catalogue
and Our Agency Plan*

*A few of the
Outstanding Features*

- "Oversize" construction.
- Extra large humidifier.
- Pouches extend thru and beyond the front.
- Solid one-piece base.
- Brass bolts and hinge pins.
- Large doors.
- Heavily ribbed firepot and combustion chamber.
- Upright E-Z Shaker if desired.

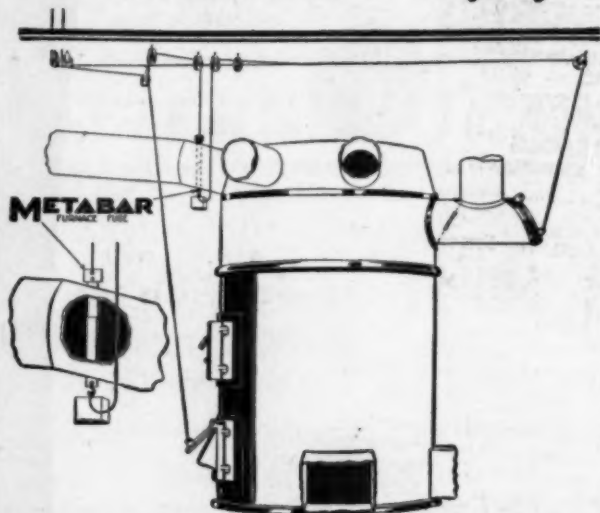
STANDARD FURNACE & SUPPLY CO.

Complete Furnace Service At Your Command

OMAHA, NEBRASKA

NATIONAL METABAR FURNACE FUSE

The Missing Link To Furnace Safety!



METABAR to a warm air furnace is like a fuse to electric wiring—the safety link to warm air furnace operation.

If a furnace gets too hot for safety, and temperature in the warm air pipe reaches 250°, METABAR melts—closing the draft and opening the check. The draft will not stay open or the check closed until METABAR is put together again. This is easily done by anyone over the flame of a candle.

The illustration shows the utter simplicity of how METABAR is installed in any warm air furnace, whether automatically controlled or hand operated, and how it cannot fail to close the draft and open the check if the furnace gets too hot.

PRICE Complete with chain, counterweight, etc.

\$5.00 to the furnace owner.
\$3.00 to furnace dealers and contractors.

Your profit is \$2.00, and a furnace owner can install it himself in a few minutes.

METABAR is sold through regular jobbers, or direct to dealers, on a money-back guarantee if you are not satisfied. It is made and guaranteed by the manufacturers of METAPHRAM Furnace Regulators, METAPHRAM Damper Regulators and NATIONAL Heat Regulation Systems.

Use the coupon or your letterhead—but order a METABAR today.

NATIONAL REGULATOR CO.
2303 Knox Ave., Chicago, Ill.

National Regulator Co.,
2303 Knox Avenue, Chicago, Ill.

ENTER our order for.....METABARS, complete for installation at \$3.00 each.

- ☐ Send more information about METABAR.
- ☐ Send complete details about METAPHRAM Furnace Regulator.

Name
Address
Town..... State.....
My Jobber Is.....



Oil fired furnaces and boilers, as well as coal fired furnaces and boilers, can be cleaned with the Sturtevant.

THIS QUICK WAY Makes Cleaning Business MORE PROFITABLE

HHEATING engineers can increase their profits one half to two thirds by handling a larger volume of cleaning business. The Sturtevant Furnace Vacuum Cleaner opens the way. There's real profit in cleaning furnaces the vacuum way because it's quick and efficient. Cleaning jobs not only give you a good profit but give you an opportunity to sell more repair parts and also increase the sale of new heating plants.

The Sturtevant cleans all kinds of furnaces and boilers. It is the quickest and most thorough cleaning device on the market. Also the lightest in weight and the easiest to handle. It has only one moving part, the fans, revolving on the same shaft with the motor. The shaft runs in self-aligning ball bearings. The dust bag, bearings and fans are protected against injury by a metal collector and baffle plate inside of the front cover which stops all dirt, soot, ashes and heavy particles from reaching the working parts and allows only the dust to enter the dust bag. 99% separation is guaranteed.

Don't delay investigating this quick, thorough way to clean heating plants. Hundreds of heating engineers are reaping large profits with the Sturtevant. Write now for further information. Use the coupon below.

Agents wanted for territories in
Indiana and west of the Mississippi.
Submit qualifications.

Sturtevant
REG. U. S. PAT. OFF.

HYDE PARK, BOSTON, MASS.

**B. F. Sturtevant Company,
Hyde Park, Boston, Mass.**

Dept. AA623

Without obligation to me, send along further information and price on the Sturtevant Portable Furnace Cleaner.

Name
Address
City..... State.....

June 23, 1928

GEORGE F. LANGENBERG
PRESIDENT
EVERETT B. LANGENBERG
VICE PRESIDENT

JOHN J. WALSH
SECRETARY
GEO. L. KLEBER
TREASURER



LANGENBERG
MANUFACTURING CO.

MAKERS OF
FRONT RANK
TRADE NAME REGISTERED
STEEL FURNACES
AND FURNACE SUPPLIES



4518-4533 EUCLID AVENUE

ADDRESS ALL COMMUNICATIONS TO THE COMPANY



June 13, 1928.

American Artisan,
620 So. Michigan Ave.,
Chicago.

Gentlemen:-

I have read with much interest your various articles on Window Displays for Furnace Dealers, and think the one last week, consisting of a four-page insert on heavy book paper is a "peach". So much so, that I am using the idea in a circular going out over the signature of our salesmen to each of their dealers, copy of which I am enclosing.

I hope you will keep up the good work on this subject, which is one sorely needed by furnace men and in which, I am sure, the manufacturers will be glad to cooperate if you can only get the dealers interested.

With best wishes for your success, we are

Yours truly,

LANGENBERG MANUFACTURING CO.

Secretary.

JJW:MW

1888 40 YEARS CONTINUOUS SERVICE 1928

DIRECT FIRED
UNIT HEATER




BOLTS

WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS. CATALOG ON REQUEST.

THE LAMSON & SESSIONS CO.
THE KIRK-LATTY CO.

1971 W. 85th St. Cleveland, O.



PATTERNS FOR STOVES AND HEATERS
THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

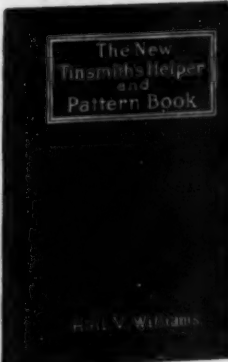
P A T T E R N S
FOR STOVES AND HEATERS FIRST-CLASS
IN WOOD and IRON
VEDDER PATTERN WORKS ESTABLISHED 1833 TROY, N. Y.

IRON AND WOOD
STOVE PATTERNS
QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

352
Pages

247
Figures

165
Tables



*Flexible
Leather
Binding*

*Measures
4½x5 in.*

One of the Best and Most Popular Books
on tinsmithing and elementary sheet metal work. This is the latest edition and the contents are new excepting the chapter on Mensuration, which has been re-arranged and amplified, and possibly some fifty pages of problems and tables which are classified to the phase of the work they cover.

This Book Covers Simple Geometry and Every Phase of Modern Pattern Cutting
from the making of every type of Seam, Lap and Joint, to Conical Problems and Tinware, Elbows, Piping, Ducts, Gutters, Leaders, Cornice and Skylight Work and Furnace Fittings.

In fact an excellent all-around book for every man in the trade. Mr. Williams writes in an easy-to-read, helpful manner, giving you all the necessary details about each subject he handles. You should add this widely read book to your collection now.

PRICE \$3.00
AMERICAN ARTISAN
620 South Michigan Avenue, Chicago, Ill.

STEARNS

Registers—



*From
your Jobber—*

Write for catalog

THE STEARNS REGISTER CO.
1234 Mt. Elliott Ave. Detroit, Michigan



The AUERISTOCRAT

of all registers, combining air capacity, decorative and concealing features.

Designed to conform with the Standard Code so they fit all standard boxes.

Auer Patented mechanical features make it perfect in operation,—quick and easy to install.

Auer's Save Hours and Dollars

The AUER REGISTER CO.
Cleveland, Ohio

Founded 1880

Published to Promote
Better
Warm Air Heating
and
Sheet Metal Work

American Artisan

The Warm Air Heating and Sheet Metal Journal

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CHICAGO, JUNE 23, 1928

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"THERE IS NO LAW"

There is no law that requires men to compete with each other upon an unprofitable basis.

There is no law which prohibits you from getting as much or more for your goods as your competitor.

There is no law which prohibits you from informing your competitor as to the prices and terms at which you are selling your goods.

There is no law which prohibits you from having confidence in the information which your competitor gives you.

There is no law which prohibits a manufacturer from suggesting a resale price by jobber to retailer, on his products, and if such resale price provides the jobber with only a fair profit.

There is no law which prohibits the manufacturer from refusing to sell jobbers who do not respect such a resale price.

There is no law prohibiting a jobber from refusing to buy from a manufacturer who does not establish a suggested resale price on his products.



One Less Schedule To Worry About

*Make the Nearest Ryerson Plant Responsible
for Steel Deliveries During the Vacation Period*

TURN the steel problem over to Ryerson and there will be one less schedule to worry about during the vacation period. Immediate shipments of sheets, angles, bolts, rivets, etc., will take care of regular production and any special jobs that may arise.

We have the steel—thousands of tons—stocked at

eight strategic centers, bringing you all the advantages of our nation-wide steel-service system.

Special equipment and years of experience make for dependability, accuracy and speed.

In this way immediate shipment is assured on every steel product you may need.

There will be no worry or waiting if the orders are placed with Ryerson.

Partial List of Sheets Carried in Stock

Ascoloy
Black Steel
Blue Annealed
Galvanized
Patent Leveled

Silver Finish
"C" Pickled
Single Pickled
Deep Stamping

Uniform Blue
Wellsville Polished
Bill Poster's
Partition Steel

Electrical
Tool Steel
Lead Coated (Ternes)
Armco Ingot Iron

Armco Galvanized
Armco Enameling
Corrugated Armco
Corrugated Steel

WRITE FOR THE JOURNAL AND STOCK LIST—"KEY" TO IMMEDIATE STEEL

JOSEPH T. RYERSON & SON INC.

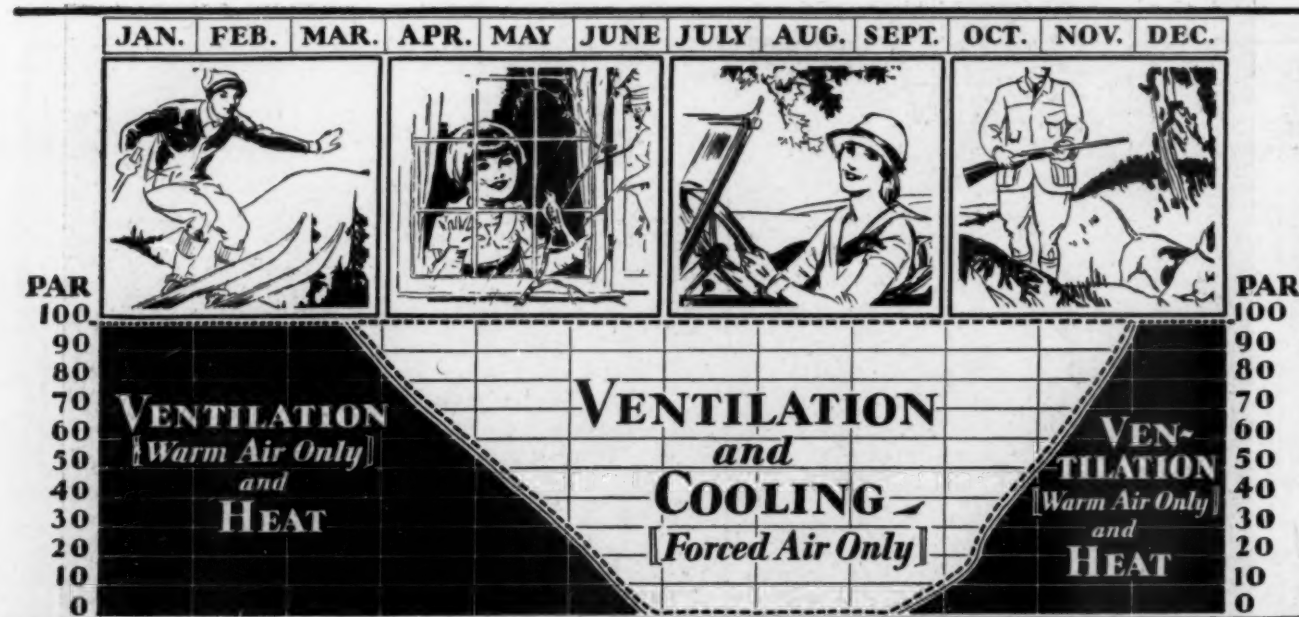
ESTABLISHED 1842

Plants: Chicago Milwaukee St. Louis Cincinnati Detroit Cleveland Buffalo Boston Jersey City
Representation In: Minneapolis Tulsa Houston Newark New York Denver Los Angeles San Francisco

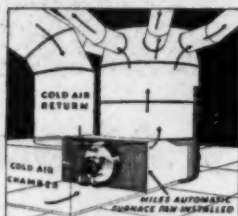
RYERSON

85 YEARS OF STEEL-SERVICE

Say you saw it in AMERICAN ARTISAN—Thank you!



Sell PAR Utility the Year Around



Above—Showing general idea of installations.

Below—Miles Automatic Furnace Fan with louvers open and gravity system operating. The touch of a switch or the automatic thermostat closes louvers and starts the operation of Forced Air Circulation—warm in winter and cool in summer.

CAN YOU conscientiously sell a heating system that lies idle nearly half the year—when you know you can give people a system they will use the year around?

Can you afford to handicap yourself by selling a part-time system—when others are selling year-'round comfort and utility?

All the trade knows, now, that the Miles Automatic Furnace Fan pushes cool air up the pipes in Summer—as well as warm air in Winter. The public knows it, too, through our national advertising and through fan owner enthusiasm. There is a nation-wide demand for "Running Warm and Cool Air".

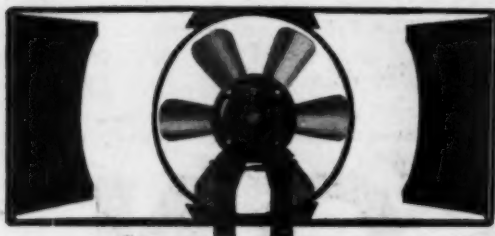
Get Ready Now for a Profitable Summer

The Miles Fan and Louvers are getting warm air furnaces into thousands of big homes which otherwise would not have been furnace jobs. Into schools, churches, garages and other buildings, too.

If you could sit here in our office and open one day's mail—you would say to yourself—"How long has this been going on, and me not in on it?" You would see the dozens of photographs of big and beautiful "Forced Air" heated and ven-

tilated homes—voluntarily sent to us by delighted furnace dealers. You would see their letters telling how their Miles Fan demonstration units are selling one furnace installation after another. And how they are selling fan and louver outfits to cure sick old furnace jobs.

We have a wealth of this evidence—any amount you want. Let us send some of it to you. Write us now and get ready for a busy and profitable Summer.



THE WARM AIR FURNACE FAN CO.
6521 Cedar Ave. Cleveland, Ohio

R. O. BRANNAN, 64 W. Randolph Street, Chicago, Ill.
A. O. MILLER, 301 N. 7th Street, Minneapolis, Minn.

F. H. MASON, Western Sales Manager
1011 Pioneer Trust Building, Kansas City, Mo.

MILES Automatic FURNACE FAN



American Artisan

The Warm Air Heating and Sheet Metal Journal



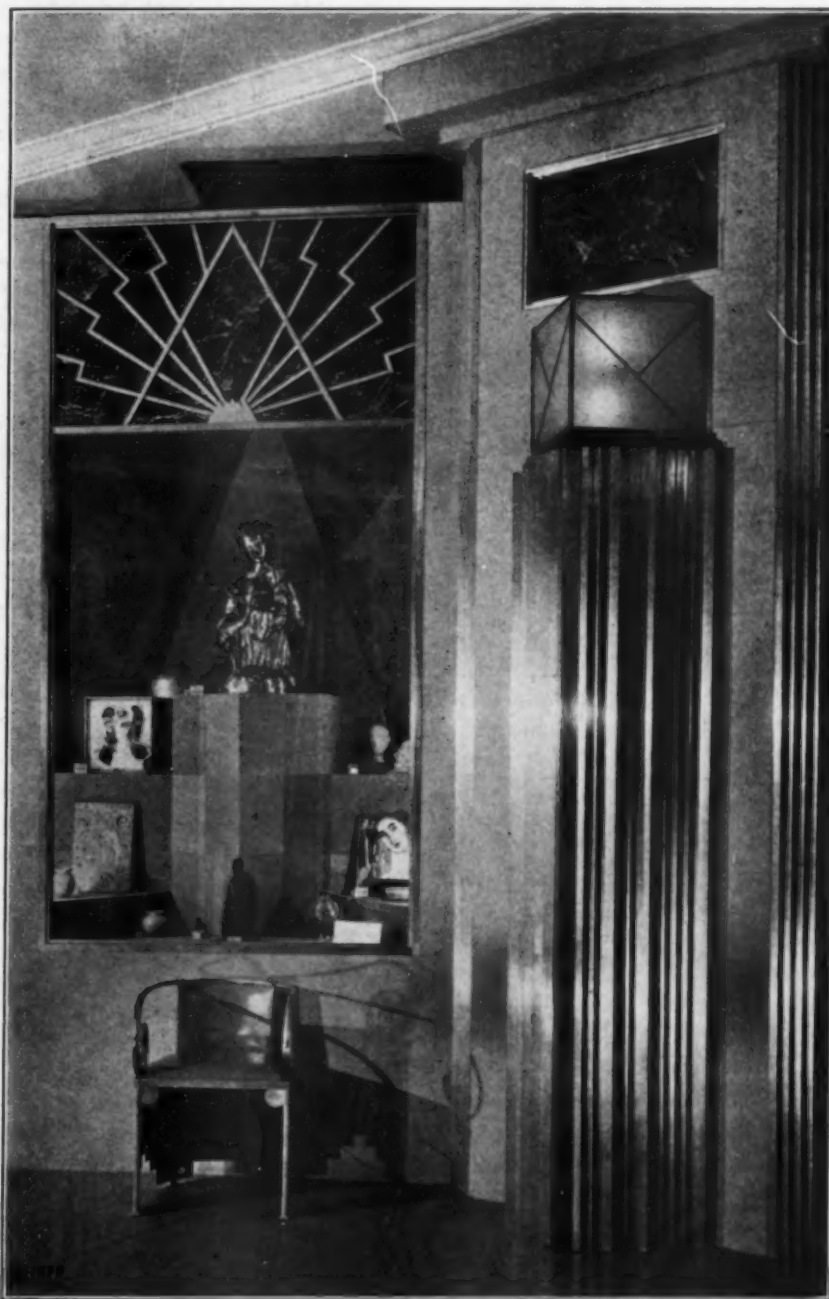
Vol. 95

CHICAGO, JUNE 23, 1928

No. 25

Leading New York Designer, Lee Simonson, Sees Advantage in Metal Furniture

By FRANKLIN SPIER



METAL furniture in composition houses will make the American home of the future, according to the prediction of Lee Simonson, modernist designer and architect, who spoke at the opening of the recent International Exposition of Art in Industry, held in the

Metal columns, of alternating strips of copper, German silver, and brass, were used by Lee Simonson in the backgrounds of the R. H. Macy International Exposition of Arts in Industry. The walls were made of transite, an asbestos roofing material. Insets of imitation marble were decorated with copper "thunderbolts." The exhibition cases were lined with cork inlay.

exhibition galleries of R. H. Macy and Company, New York, recently. Simonson, as architect of the ex-

position, made novel use of metal and of ordinary factory building materials in his decorative scheme,

constructing doorways and columns of strips of copper, German silver, and brass in vertical angular arrangement.

"The use of metal in the construction of furniture is obviously an advantage for the modern, limited-space home," he said in explaining his views. "A satisfying effect can be obtained without mas-



Lee Simonson, Designer

sivity. Furthermore, metal furniture can be made of movable and interchangeable units that will not break or warp and will require only a minimum of care.

"The order of the day is mass production. If we can stamp furniture out of metal as we do automobiles there is an obvious gain in economy, and there is little real danger of monotony or standardization to a dead level, because individuality and good taste may always enter into the assembly of interchangeable units in the construction of individual pieces, and in the planning of the entire home."

Simonson, who has designed all kinds of furniture in his position as stage designer of the Theatre Guild in New York, declared himself against wood furniture.

"It is as anachronistic (out-of-date) to use wood invariably for modern furniture as it would be to hand-letter books with a quill pen,"

he said. "The high finishes traditional in furniture are a relic of the old days when craft labor was abundant and cheap. Why continue this practice in a day when all the emphasis must be placed on saving labor?"

Mr. Simonson decried the present tendency of manufacturers of metal furniture to imitate wood period designs and finishes. "The new materials call for a fresh approach and the cooperation of the best designers, artists, and craftsmen of the modern schools. In addition to making furniture of metals, I would utilize the new composition and synthetic materials. Transite, asbestos, cork inlay, zenotherm, and similar materials, as well as such utilitarian products as galvanized iron could be used in the construction of economical, efficient, and really beautiful furniture which would be in key with the spirit of our times.

"The metal filing cases used in offices today instead of the old-fashioned wooden ones are an evidence of what might be done with a dresser or chest of drawers in the home," Mr. Simonson pointed out. "Of course they should not be painted a uniform, horrible, and depressing olive green, and they should be designed by an artist; then they would be most beautiful."

New Milburn Paint Spray Gun Has Two Important Additions

These features are first a dialed head which gives numerous different spray adjustments from a circular spray to a fan of a wider field than has heretofore been possible with spray guns. The dialing permits the operator to obtain any desired spray instantly without first making tests.

Secondly, a series of indicator numerals on the paint valve plunger. A pointer is operated as the operator turns the adjustment button. Just as the dial in the head produces the exact spray wanted, so the indicator numerals on the paint valve plunger provide the exact volume desired without the necessity of

losing time by testing. The operator, having found that a certain class of work is best performed when the indicator points to a certain figure, makes the proper adjustment before beginning to spray.

To use a term made familiar by radio, the new improvements calibrate all operations and enable the operator to "tune in" instantly on



The Paint Sprayer

the proper adjustments for perfect operation. They also substitute scientific accuracy for "rule of thumb."

The new Milburn Spray Gun is known as the Type EF. To enable owners of the Milburn Type E Gun to obtain the benefit of the improvements, the new dialed air control valve and the plunger have been made interchangeable and the Type E Can, therefore, may be brought up-to-date by the insertion of these parts at the factory of The Alexander Milburn Company in Baltimore. In other words, in bringing out the Type EF Paint and Lacquer Spray Gun, the Type E Gun has not been made an "orphan."

L. B. Block Becomes Purchasing Agent of Inland Steel Company

Leigh B. Block has been appointed purchasing agent of the Inland Steel Company, Chicago, effective at once, according to an announcement made this week. He will be located at the Indiana Harbor, Indiana, plant. Mr. Block has been with Inland for the past four years.

Fear of Overproduction and of Competition Real Cause of Price Cutting in Steel Industry

Increasing Volume Does Not Always Mean Increased Profits

By O. H. CHENEY*

The vital question is, does anybody really gain by these conditions? And, are they necessary?

It does not seem to be necessary. Competition in the automobile industry is fierce enough. Whatever price concessions auto manufacturers obtain from the steel mills are usually quickly lost in the struggle. But not only do not the consuming industries gain by the producers' loss, but they are in danger of real loss themselves. The automobile and every other consuming industry are just as dependent on the steel industry as the steel industry is on them. That is a principle which seems to have been lost in the present business. Unless the steel industry is able to continue efficient and economical production at a reasonable profit, the consuming industries may find themselves without an adequate, continuous and economical supply of essential materials.

At What Point Does Competition Decrease Quality and Service?

The ultimate consumer also has his duty to the producer. And there is still another danger to the public in production inadequately rewarded. Up to a certain point price competition tends to force producers to improve their methods, in order to reduce costs and to raise quality, but beyond that point more intense competition tends to decrease quality and service. In the long run the public loses by price competition, no matter how much it may apparently save temporarily.

*Address by O. H. Cheney, Vice President, American Exchange Irving Trust Company, New York, delivered before the National Association of Flat Rolled Steel Manufacturers, White Sulphur Springs, June 5, 1928. The first half of this address appeared in the June 16, 1928, issue.

How long can the steel industry continue in a position of stress and strain in the economic unbalance in which it finds itself? It may be that such a condition naturally tends to right itself. No industry can forever hold its breath. There is such a sensation as economic "pins and needles," which comes from letting one or another economic member fall asleep. But it is strange how long our business system may appear to be generally prosperous and still include unprosperous industries. Some of the textile industries, for instance, have been living in a strange world for a number of years—prosperity all around them, but not theirs. What has happened? The vital answer is in the recent wage-cuts in some of the textile mills. And if these cuts become widespread, what will happen to the prosperity of the section from which these industries draw their labor?

Can the steel industry allow itself to get into that precarious position? Can the industries which serve and are served by the steel industry allow this danger to overshadow them? Can the country afford to have the buying power of thousands of families impaired?

The laws of economics help those who help themselves. The present condition of the steel industry cannot be blamed on anybody but the steel men. They have it in their power to work themselves out of the difficulties into which they have placed themselves. They must have the co-operation of the steel consuming industries, but they cannot expect it until they have proved that they can use it constructively.

When Industries Justify Their Actions with Alibis

If I ask you, "Why do you cut prices? Why do you juggle quota-

tions and base prices and extras and specifications?" you will answer, "We must get the business." You will tell me that the real trouble is the excess capacity of the flat-rolled steel producers.

"Excess capacity" has become a favorite alibi for American business men, and as soon as an alibi becomes popular I begin to be doubtful about its significance. A large proportion of manufacturers are using it to justify price-cutting and extreme tactics of competition. Most of them sincerely believe their complaint—their very sincerity has blinded them to the truth. Excess capacity is not the cause of price-cutting. The real cause is the *fear* of excess capacity. I cannot think of a single industry which is not over-extended in plant. It is characteristic of American business men to fall over themselves in building new plants and adding to capacity as soon as there is even a hint of increasing demand.

The real cause of price-cutting is not in the mere existence of excess capacity, but in the blind grasping for volume to use that capacity. Excess capacity is an inanimate thing—sometimes it is only a disembodied statistic. But grasping for business is a human trait and within the power of the men in this room to overcome. It is estimated that your industry has about 25 per cent excess capacity—it would not really matter if the excess were 10 per cent. Getting the extra volume does not get you any more profits—it gets you less. That you have proved very clearly last year. But the means you use in trying to get the extra volume are not only increasing your profits—they are actually cutting them. Like drowning men, you clutch at a straw and, if I may mix my metaphors, it is

the last straw which is breaking the camel's back.

Mergers Not Always Solution to Excess Capacity Problem

Of course, you know the answer—"mergers." We have been told that this is an era of big business and of growing business. The idea has become part of our economic creed that business must grow bigger. I do not know just how this idea can be reconciled with the facts about the big companies in the steel industry. In the flat rolled steel field there have recently been some important mergers and others are probably on the way. This trend is inevitable in your particular line because your line is at present probably the least concentrated in the whole steel industry.

Consolidations in the flat rolled field are inevitable, but will they solve the problem of excess capacity? There are mergers and mergers. It is time we got over the notion that any merger is a good merger, that it immediately makes the combined plants more efficient, cuts the overhead and increases profits. Practically any business can improve itself by taking thought, but merely putting two businesses together without thought does not automatically improve them.

I do not believe that combining plants will have very much, if any, effect on existing capacity. Even in this exciting era of the higher statistics two and two still make four. But mergers could be of some value in preventing immediate and unnecessary increase in capacity, although even that is doubtful. One cause of the surplus plant—and of the present building operations—is that many plants have grown up without being properly integrated or rounded out. Many plants have too much ingot capacity for their finishing equipment and many have too much finishing capacity for their furnaces. The process of rounding out means building, and building means new excess. If the proper companies are merged, however, it would be

possible to do the rounding out without new construction. But probably as soon as the big company settled down it would start building, anyway. There isn't very much hope in the idea that the competition will be reduced if there are fewer competitors. I have known two boys to make as much of a fight as ten.

But how can this price-cutting be stopped? Only by casting out the craze for volume at any cost and the fear of not getting the volume. This means the scientific quoting of prices based on actual cost plus a reasonable profit. It means sticking to quotations. *It means going after only a reasonable proportion of the total business based on the average for previous years, and being satisfied with that volume.* It means sticking as much as possible to your own economic territory, instead of trying to flood the country. *It means getting a reasonable volume of business by sane and ethical methods and making sure of a legitimate profit on it.*

The best way to carry out a one-price policy is to forget competition. It should be much easier to do in steel than it used to be, because steel is no longer just steel. An increasing proportion of steel is in the class which would be called special a few years ago. *Know your cost, know your base price, know the extra for each type of steel—and ask for what you know.*

The only way to conduct operations on a practical basis without under-production and over-production is to know, to have the facts in a continuous record, not only for your own plant, but for the whole industry.

The only sound way to increase the volume of each company which deserves to exist at all is to increase the total volume of steel sold, to extend its use, to improve it so that its service may be extended.

Here are two definite programs which offer the only solution of the steel industry's problem, and both of them demand the form of close co-operation, which is known as the trade association. I am sorry I

cannot suggest some new remedy, something simple and exciting. The trade association is simple and exciting, but only with the simplicity and excitement of hard work.

New Competition Needs Watching as Dread Disease

I have tried to avoid talking about the new competition, but somehow in any discussion of modern industry it is becoming impossible to dodge it. Any industry which does not wake up to the new competition may wake up to find itself dead. Your own line is in a constant state of flux—every day new pressures are changing its nature, not only in production but in uses and markets. You cannot accept these changes in the spirit of that old story of the Irishman who was falling from the fifteenth floor and yelled to somebody at a tenth floor window that he was "all right so far."

Last year the decrease in output of flat products was not quite as high as in finished steel generally, but in the past seven years the proportion of rolled steel to ingot production declined in spite of the increase of over 1,600,000 tons. Between 1920 and 1927 your line has undergone vital changes and the next seven years will probably see even more vital ones. In production, bands have declined over 65,000 tons and hoops over 150,000 (nearly a half); strip steel has more than doubled, while tin mill black has had a slight increase; in the higher gages of sheets the gain is over a million tons, and in the lower gages about 15 per cent. Less than three-quarters of last year's sheet industry was in existence in 1920. Who can say what the future will be in 1934? The one who can will be the one who makes money.

No industry can call its market its own. What happened to steel roofing and spouting? What happened to the whole galvanized industry? Whose fault was it that copper, asbestos, slate, composition tile, asphalt and even paper took away that big market from your industry? The galvanizers began to skimp more and more on the amount

of coating they put on—another example of the evils of price competition—but did you try to educate them out of it? Did you try to help the zinc people do it? No, you kept on selling lighter gage sheets when you knew they couldn't give the service, and some are continuing to do so even after the practice has been condemned by the accepted code of standards.

What other market do you want to lose? You think that the automobile industry is yours, but what are you going to do about the increasing proportion of fabric instead of steel in the body? And how about aluminum and aluminum alloys in automobiles and in airplanes? What are you doing to assure yourselves of growing market in the growing airplane industry?

The relations between the automobile industry and the flat rolled steel industry have been revealing, and pathetic. The automobile men had to fight hard to get the steel men to take their business. What is now one of your major markets was literally handed to you in spite of your indifference.

But conditions today are not the same as those in 1900. No more markets will be handed to you. If you want the steel furniture or the steel house market, shelving or interior trim, you will have to do more than deign to accept them—you will have to fight for them.

Developing Power of Research and Public Education

The two weapons in winning new markets are research and education. Certain of your member companies have already demonstrated what these weapons can accomplish. Some of those companies which have developed new products and intelligently promoted their use will be found heading the list of profit-makers. But if the industry as a whole is going forth to conquer new markets, should the burden be placed on two or three companies? Whose steel industry is it?

Too many of the developments in the use of steel have come from the consuming industries. Study

the history of welding, for example. Even the latest development, the use of copper in a hydrogen atmosphere, is the work of the General Electric Company. Compare the present attitude of your industry with that of a group of foreign wire makers, for instance. Their association has built an experimental plant, co-operatively owned by all the members. In this plant they will manufacture a wide range of wire products and every process will be studied and re-studied. Experiments will be made continuously to improve quality and manufacturing methods, reduce costs, and develop scientific distribution methods. And the benefits will be for the use of the entire membership.

You have proved to yourselves that even the most elementary kind

A complete story of the final meeting of the Western Warm Air Furnace & Supply Association, held in the Hotel Sherman, Chicago, June 22, 1928, will appear in our next week's issue.

of co-operation may mean millions to the industry. The simplification in sheet steel alone is estimated to be saving the industry \$2,400,000 a year.

Nobody will buy steel simply because you make it. But the consumer will buy competitive materials if they are educated. Steel is only steel so long as people don't know the purposes for which it may be used. Your industry has already spent what seems to you like a considerable sum of money in co-operative advertising. It has shown results in real tonnage. But you may be disappointed; co-operative advertising is still new—every campaign has to learn from its mistakes. And it is so easy to spend money in advertising. To get the greatest value out of co-operative advertising it must be welded into a sound program with research. The two cannot be separated. I do

not mean only technical research, but also economic research for the safeguarding and building up of old markets and the development of new ones. Without a thorough and scientific study of the most likely and most profitable fields for extension, advertising money is easily wasted.

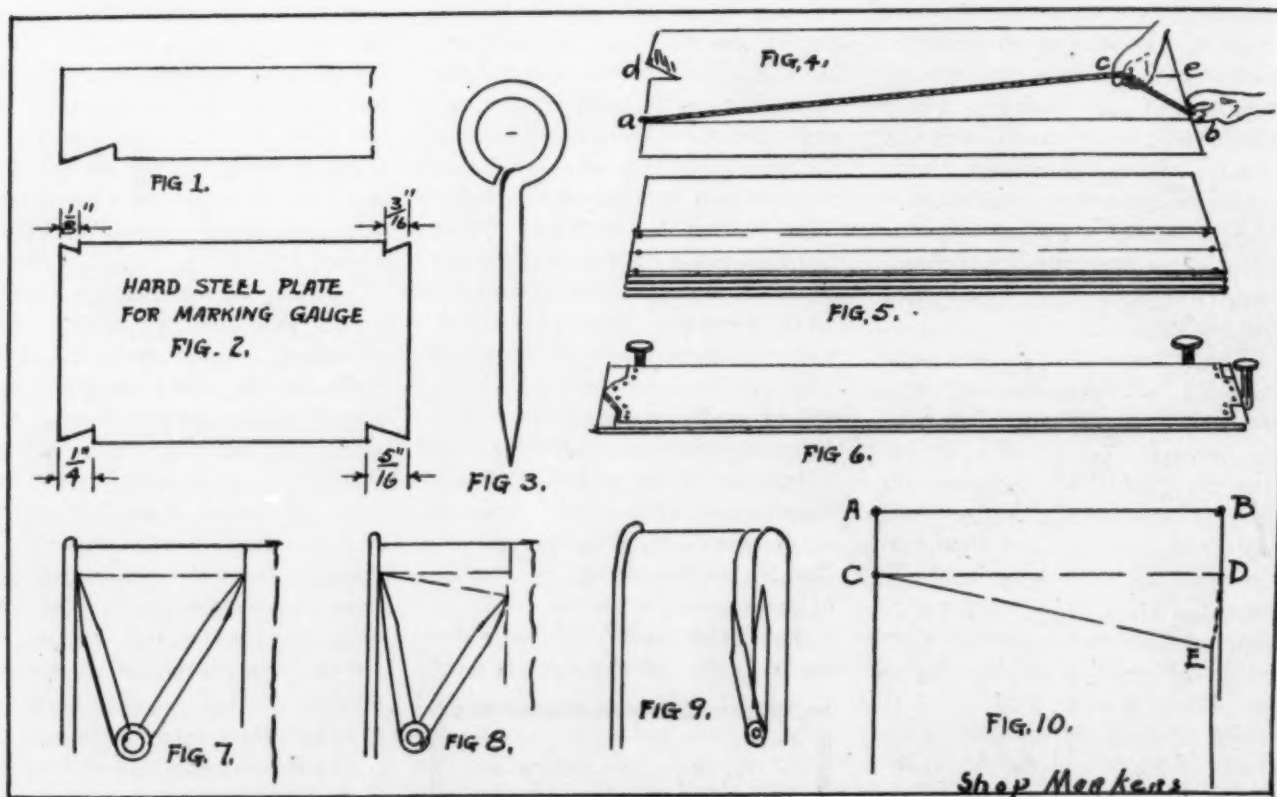
Speaking of co-operative advertising, what kind of co-operative advertising would you call that which knocks steel? Horrible examples of the defects of steel are graphically pictured in these advertisements—rusting and its cost and its unsightliness. *What is the effect on the consumer? Doesn't such advertising leave the reader with the growing feeling against steel in general? If your steel is better, say so, but keep on saying that all steel is good.*

Who Determines Ultimate Prosperity of an Industry?

But why should the steel producers pay to promote products which they don't make? You don't make furniture or shelving or roofing, but how much money you make depends vitally on how well your customers sell. The sales problem of the consuming industries is your sales problem and you are tied together by the unbreakable bonds of modern industry.

This new co-operation as a weapon in the new competition extends to the other important phase of the new competition—the competition between the different factors in the industry. Just as your prosperity depends on that of the consuming industries, so does it also depend on the distribution machinery. Trying to beat the jobber is too much like knocking your head. Only a spirit of understanding and sound co-operation can make the steel industry one in its war against the other industries.

It is strange that those men of the industry who have made most progress by their own intelligent effort and high ideals are most willing to share and give of themselves in co-operation effort. These men are by all logic the real leaders of your industry.



Shop Marking Methods

Some Shops Marking Processes That Will Save Time and Confusion

Workmen Can Use Methods Depicted in Marking Long Sheets and Strips

By O. W. KOTHE, Principal St. Louis Technical Institute

THE majority of work in most shops is more or less of just straight jobs making boxes, piping, tanks and such other more simple things. A great deal of larger work such as skylights and cornice work is also more or less straight in that straight lengths are required and the miters are more of a side issue. However shops that do repair work have considerable occasion for marking and here workmen are handicapped in one way or another by lack of forethought or where the employer hesitates to provide suitable equipment.

So at figure 1, we show what many men make as a marking gauge by cutting out a piece of metal and notching it for a quarter or three-eighths of an inch and us-

ing that as a means for marking out lines on vessels or such other work. This is all right but a new gauge must be made every little while. A better scheme is to provide a hard steel plate similar to figure 2 and have it dressed with the edges sharp and notched to take on a variety of measurements and then just scratch along the level with it. This is more satisfactory than making the one out of light metal to be discarded with each usage.

The marking awl as at figure 3 is also an important item for most mechanics. It is better to be made from a piece of brass wire preferably spring wire which can be hammered and increased in hardness. This sort of marker is specially good when working on black iron,

as the brass line leaves a bright glow on the iron scale and makes a better line than could be expected from a steel awl. Some men use soapstone for marking purposes which is quite satisfactory only that it must be sharpened so often in order to get any semblance for accuracy.

The matter of marking long sheets of metal or for that matter long strips of metal when used for gutter linings, etc., is always a problem for some men. It is not unusual for a person to see a mechanic walk from one end to another of an 8-foot sheet 3 or 4 times before he gets the straight edge placed in order to draw his line. That is a waste of time and is inefficient. If the same man would notch his sheet

on the line as at d he could lay the straight edge against it on the one side and hold it on the other end as at e in figure 4. In this way a person can make much better time and always be sure that points hook up all right. Another method is to cut in a notch as at a and use a chalk line for snapping the cutting or the bending lines. This latter method is especially good when long stretches are met with as in roof gutters or in cutting strips for standing seam roofs and the like. If one of the ends are curled up and the workman can place some weight as a brick bat or something like that on the metal which holds it down enough to pull the chalk line taut for snapping.

When making strips for gutters or for ridging, cap strips, skylight bars and numerous other items it is a common practice for some men to mark out each piece separately. The better method is to cut as many strips as you require from the start. Sometimes it is advisable, where many sheets must be marked out, to mark out one sheet and use this as a pattern for merely marking off the other sheets when two or three can be marked off at the same time. After the marking points are placed, a straight edge is used for marking the lines for slitting purposes. Such is the work where hand operations are necessary and it is understood where slitting shears are available, they can be used without first marking the width of strips. Skylight bars are such a thing where many strips are required of similar width. Here enough strips can be cut and then the pieces marked off as in figure 6. The same holds good for ridge bars, capping strips and such other work which can be marked off in quantity by applying figure 5.

Many workmen use dividers for marking off cutting lines on their work, which is perfectly all right if done properly. Thus at figure 7 we show where dividers are held so a square line is made, but if the dividers are tilted or inclined as in figure 8, then an uneven line is produced and it often causes hills and

hollows to form where new bottoms are put in. The same holds true in cases as at figure 9, where one point of the dividers is allowed to project into the vessel too far which has a tendency to shorten the width. This is clearly shown in diagram figure 10 where A-B is the width desired and after going a short distance the dividers tilt as from C-E and are held at this angle.

From inspection it will be observed that in this diagram a 16th inch difference is made. Our workmen should observe these points and watch them while performing such work.

Courage of Conviction Sells Goods and Makes Profits

Confidence is the bulwark of successful selling. Be confident. Know and understand the thing you would sell. For selling is not pleading. It is creating desire. Without confidence how can one hope to inspire desire in others? To believe in your product or service, to feel in your bones that what you are selling is a highly desirable thing—that is confidence, the courage of conviction. And it sells. There is a great deal of room in the furnace industry for this type of selling.

Unishear Company, New York, Develops New Model Unishear

The Unishear Company, 270 Lafayette St., New York, makers of the popular line of Unishear's have recently added a new model to their line.

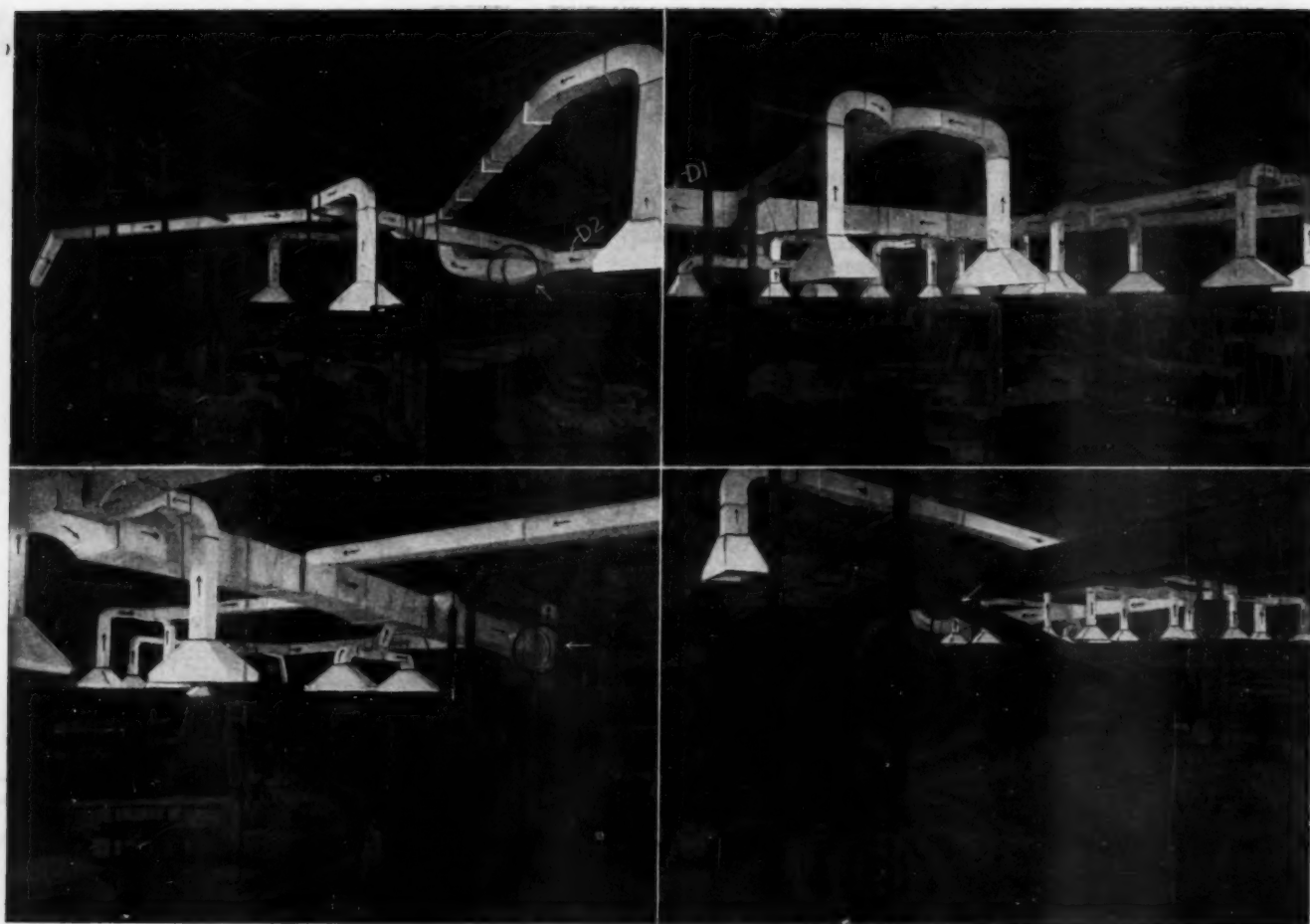
This new model which is called A-10 has embodied in it all the sturdiness and precision that is required for the best service. The new model which is operated with a General Electric $\frac{3}{4}$ h.p. motor will cut at the rate of 10 feet per minute. No. 10 U. S. Gage cold rolled steel will cut like cardboard without burr or distortion, say the manufacturers of this product.

The weight of this new model is about 165 pounds and can be had with or without the starter but the makers recommend the use of a starter to obtain the most satisfactory operation. Proper starters can be furnished with each machine if the purchaser so desires.

Mr. Steindorff, head of the Unishear Company, stated that their new model Unishear is the machine the metal shearing industry have been waiting for and predicts that every sheet metal firm will eventually have one. Complete information can be had by writing the company.



The Unishear in Operation



Showing Actual Installation

WHAT DE BOTHEZAT DISC PRESSURE FANS CAN DO

NOT so long ago it seemed to be a well established fact that static pressure could not be produced by disc fans. Many reliable fan manufacturers did not even hesitate to state that disc fans should not be used where static pressure was an essential factor. Only blowers were considered to be able to produce static pressure.

If one would take the trouble to meditate from a general standpoint upon the fact that blowers, as usually designed, can produce static pressure and disc fans cannot, it would be hard to account for it, because in principle the general conditions of operation of the blades of a blower and of a disc fan are the same. Even on the contrary, all advantages for a higher efficiency seem to be on the side of the disc fan, be-

cause in the blower we have two kinds of losses inherent to the blower and which are totally absent in the disc fan.

First of all, in the blower a change

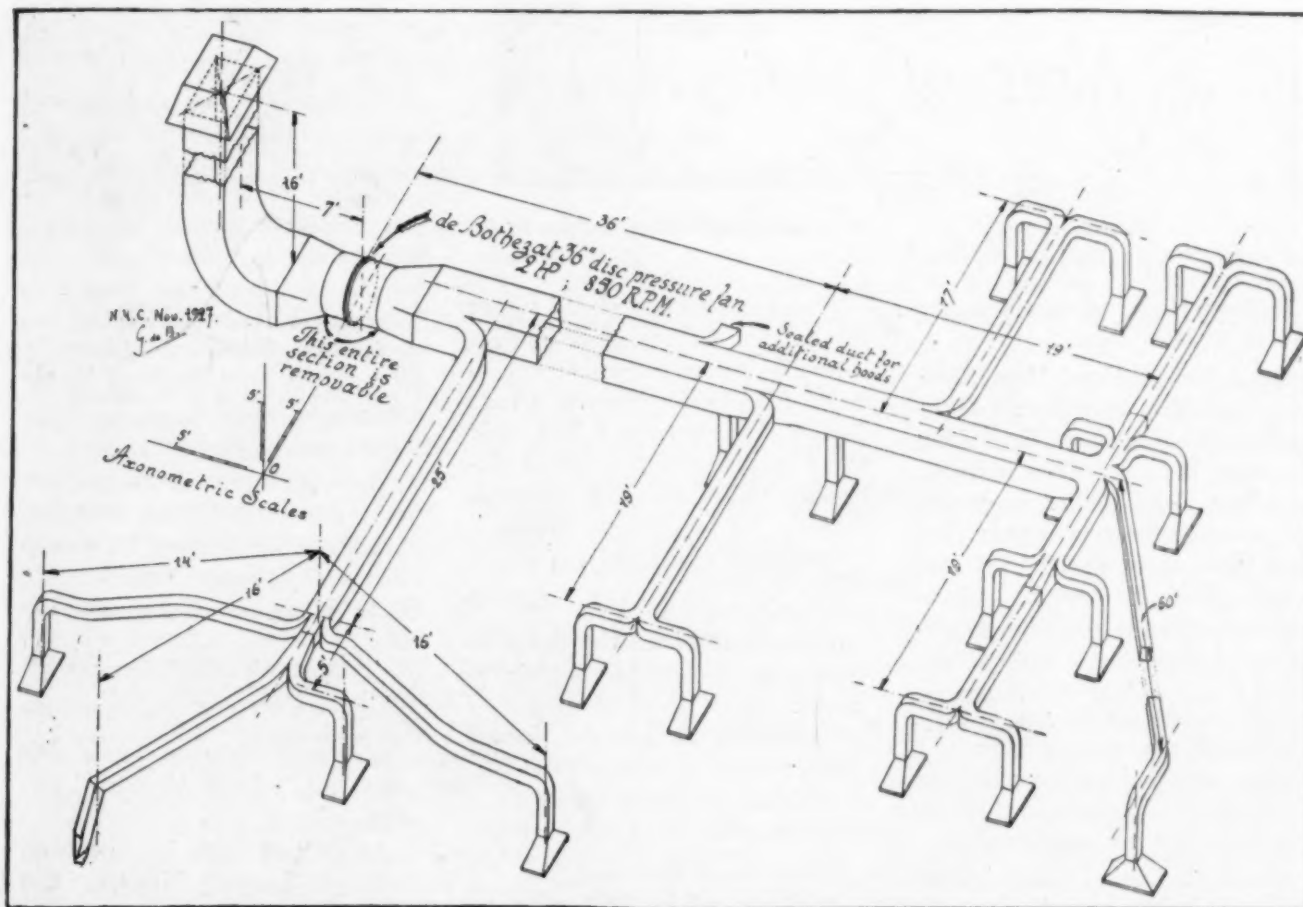


One Type Fan

of direction of the air flow takes place, the outflow being at right angle to the inflow and, as well known, all changes of flow direction always constitute a serious loss, especially if such change of flow direction takes place on a small radius, as is the case for the blower.

Second, in the blower there is a loss in the spiral housing. It is true that by a good design this last loss can be rendered rather small. But highly efficient spiral housings are of much larger dimensions so that their use in practice is almost prohibitive, and when the spiral housings are endowed with practically permissible dimensions, they reduce the efficiency of the blower.

It is these two factors, loss in the spiral housing and loss due to change of flow direction, that put an



Plan of Installation Illustrated on Preceding Page

important limitation on the highest efficiency that can be attained by a blower.

It is just on account of the fact that these two kinds of losses are absent in the disc fan that makes possible the design of disc fans of higher efficiency than blowers.

Unfortunately, until lately, disc fans could not be so designed as to produce static pressure.

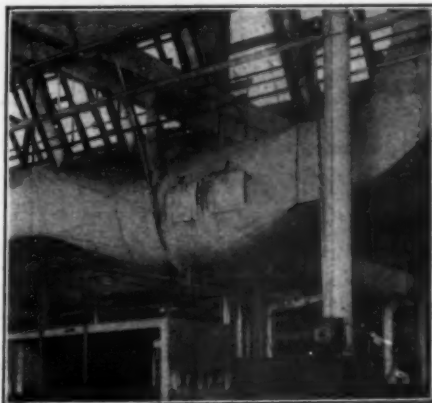
The very important discoveries made in aerodynamics in connection with the development of aviation in the last twenty years have thrown a totally new light on the question, and all opinions regarding the inability of disc fans to produce static pressure have been upset.

As a matter of fact, Dr. G. De Bothezat, one of the leading scientific authorities in modern aerodynamics, has succeeded in producing disc fans able to furnish static pressure with high efficiency.

We are here giving what we consider to be a striking example of what can be achieved with disc pres-

sure fans. As far as we know, this is the first case in the history of the technique of ventilation that a disc fan has been used for such an important duct ventilation.

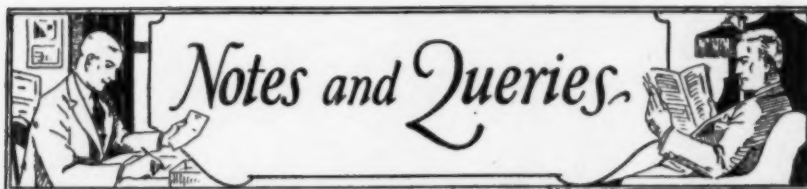
The annexed drawing gives a general view of the installation in axonometric projection. This exhaust system is installed at the Lackawanna Laundry, Jersey City, in the hall equipped with laundry machinery, having the dimensions of 200 feet by 200 feet by 20 feet. There are



A Section of Piping

altogether 380 feet of ducts with 51 bends, connecting together 19 hoods to one single disc pressure fan. Provision is made for the addition of more hoods later; the motor operating the fan is not yet loaded to capacity. Most of the hoods have to take care, each of them, of two presses or other laundry machines requiring the exhaust of heated air or vapors. One single 36-inch De Bothezat disc pressure fan secures the exhaust of about 475 C.F.M. through every hood. The fan is operated by a 2 H.P. motor at 850 R.P.M. The engineer in charge of this installation has unhesitatingly stated that the installation has given a 100 per cent performance.

This remarkable duct installation proves above discussion that disc fans properly designed can furnish static pressure with a very high efficiency. We feel that such a remarkable fact should be brought to the general attention of manufacturers interested in highly-efficient and economical ventilation.



Flexible Hose.

From H. W. Griebel, California, Missouri.

Will you please tell us who makes flexible hose?

Ans.—United Metal Hose Company, 536 West 25th Street; Pennsylvania Flexible Metallic Tubing Company, 162 North Clinton Street; American Metal Hose Company, 111 West Washington Street; Titeflex Metal Hose Corporation, 332 South Michigan Avenue; all of Chicago, Illinois.

Correspondence Course in Plumbing, Etc.

From Wilmer Rosel, St. Ansgar, Iowa.

Can you give me the name of a reliable school where one could take a correspondence course in plumbing and steam and hot water heating?

Ans.—St. Louis Technical Institute, 4543 Clayton Avenue, St. Louis, Missouri.

Small Fans for Blow Pipe Work

From H. W. Griebel, California, Missouri.

Please advise me who makes small fans for blowpipe work.

Ans.—American Blower Company, 228 North LaSalle Street; Ilg Electric Ventilating Company, 324 West Monroe Street; Garden City Fan Company, 332 South Michigan Avenue, and Johnson Fan and Blower Company, 1319 West Lake Street; all of Chicago, Illinois.

Quincy, Illinois, Firm Making Dies for Sheet Metal

From O. F. Gleisberg, Grand Island, Nebraska.

Can you tell me the name of the firm in Quincy, Illinois, who makes dies for sheet metal?

Ans.—Wodell Die and Manufacturing Company, 1325 Broadway.

Skylight Operating Device

From Sundeen Sheet Metal Works, 125 West 111th Street, Pullman, Illinois.

Who in Chicago makes a device for opening skylights?

Ans.—The Payson Manufacturing Company, 2916 West Jackson Boulevard.

Used Square Shear and Cornice Brake

From Lefever and Issit, Anthony, Kansas.

Where can we buy a used square shear and an 8-foot cornice brake?

Ans.—Interstate Machinery Company, 100 South Jefferson Street; Joseph T. Ryerson and Son, 2558 West 16th Street; Maplewood Machinery Company, 2638 Fullerton Avenue; all of Chicago, Illinois.

"Ocoala" Circulating Heater

From A. F. Schultz and Company, Angola, New York.

Please inform us who manufactures the "Ocoala" circulating heater.

Ans.—This is made by Summit Stove Works, Morrison, Illinois.

"Samson" Hand Punch

From Fort Wayne Service and Specialty Company, 222 East Berry Street, Fort Wayne, Indiana.

Will you tell us who makes the "Samson" hand punch?

Ans.—Bates Manufacturing Company, Orange, New Jersey.

Steel Stencil Letters

From The Sedalia Sheet Metal Works, 114 West Second Street, Sedalia, Missouri.

Where can we purchase $\frac{3}{4}$ to 1-inch steel stencil letters and figures for stamping impressions in sheet metal?

Ans.—C. H. Hanson Company, 178 North Clark Street; Chicago Stencil Works, 2011 North Lawndale Avenue, and L. E. Larson, 673 West Madison Street; all of Chicago.

"Simplex" Gas Range

From Metzner Stove Repair Company, 515-17 Wyandotte, Kansas City, Missouri.

Will you please inform us who makes the "Simplex" gas range?

Ans.—A-B Stove Company, Battle Creek, Michigan.

"B. & S." Hammer

From Garrett Mulder, 901 Lake Street, Kalamazoo, Michigan.

Can you tell me who manufactures the "B. & S." hammer?

Ans.—Billings and Spencer Company, Hartford, Connecticut.

Roofing Mops

From J. H. Barnett's Sheet Metal Works, 312 West Front Street, Dodge City, Kansas.

Please tell us where we can buy roofing mops.

Ans.—Benj. K. Lyman and Company, 2101 West Lake Street; Bird and Son, Incorporated, 1472 West 76th street, and Empire Roofing Supply Company, 2437 West 21st Place; all of Chicago, Illinois.

Speaking Tubes and Whistles

From Homer Sheet Metal and Plumbing Works, Homer, Louisiana.

Where can we secure speaking tubes and whistles?

Ans.—Berger Brothers Company, 237 Arch Street, Philadelphia, Pennsylvania, and Manhattan Electrical Supply Company, 112 South Wells Street, Chicago, Illinois.

"Akron Air Blast" Furnace

From Hanbury Sheet Metal Company, 512 West Eighth Street, Des Moines, Iowa.

We would like to know who makes the "Akron Air Blast" furnace.

Ans.—It is made by The May-Fieberger Company, Newark, Ohio.

Fred H. McIsaac of Lamson & Sessions Passes On

Fred H. McIsaac, Secretary and Treasurer of the Lamson & Sessions Co., manufacturers of nuts and bolts, died this week. He was prominent in the industry and was at one time vice president of the National Hardware Association.

Mr. McIsaac started with the Kirk-Latty Mfg. Co. as an office boy in 1901 and rose to be president of the company on Feb. 8, 1926. Upon the absorption of the Kirk-Latty Company by the Lamson & Sessions Co. a few months later, he was made secretary and treasurer of the latter organization and manager of the Kirk-Latty division.

Mr. McIsaac's death was due to heart trouble and he was ill only two weeks. He is survived by his wife and one son, William F. McIsaac.

He was a member of the Midway, Clifton, Cleveland Athletic Union, and Westwood Country Clubs.

Random Notes and Sketches

By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow-feeling with all forms of existence."—Carlyle.

A letter from W. E. Nesbit, vice president of the Standard Furnace & Supply Company, Omaha, Nebraska, states that his father, Fred L. Nesbit, whom everybody in the warm air heating knows for his work in the Western Warm Air Furnace & Supply Association, is residing at 814 Doheny Drive, Sherman Post Office, Los Angeles, California. He says further that his father is having a fine time doing nothing, except riding around seeing the scenery. The elder Mr. Nesbit's health is better now than during any time during the past eighteen months. I am sure that he would appreciate hearing from many of his old cronies in the warm air heating game. He intends to spend two or three months out of each year back in Omaha.

* * *

Through the kindness of M. L. Evens, General Salesman for the state of Michigan of the Homer Furnace Company, Coldwater, Michigan, our office has been a veritable bower of beauty. Mr. Evens is a peony fancier, and if his entire field of peonies are like the specimens he sent us, I don't see how he is able to leave them at all. I certainly want to thank you very much on behalf of our entire office, Mr. Evens. It was indeed very kind and thoughtful of you to remember us in the way you did.

* * *

I received on Monday of this week a souvenir of the G. O. P. convention from L. W. Millis, Secretary and Treasurer of the Security Stove and Manufacturing Company, Kansas City, Missouri. It was in the form of a cast iron paper weight moulded into the shape of the Republican party's symbol, the elephant. I surely appreciate Mr. Millis' kindness in sending me this souvenir.

Included in Mr. Millis' letter in-

forming me that he was sending the souvenir a little incident was related which is quite clever and I shall pass it along. It seems that a certain Ed Sinclair drives a truck for a company that delivers lumber to the Security Stove & Manufacturing Company. During the convention, of course, they had a big parade and Sinclair's employer furnished a truck for the parade. One day as Mr. Millis happened along Sinclair was washing the truck which had an unusual amount of grease on it, humming rather loudly the while:

"Shall I be called when de great day come

Or must I hide my haid in shame.
Shall I be wid those who weap and moan

Kase Sinclair is my name."

Mr. Millis asked Sinclair why he was putting so much extra work on the truck. Sinclair replied that he was just trying to clean up the Republican platform. One plank in the bottom of the truck was badly warped. He said he tried hard to bolt it down tight, but he thought it was the Prohibition plank.

* * *

Boy! Congratulations are surely in order now. And that is just what it is, a boy. Its father and mother are the E. A. Scotts of New York, and its name is Edwin Andrew Scott, Jr. Mr. Scott is president of the E. A. Scott Publishing Company.

* * *

My good friends Ed Stahler and Fred Goodall of the G. & S. Stove & Furnace Company, 4224 West North Avenue, Chicago, are keeping themselves in good health; at least I found them in excellent spirits on Tuesday of this week when I called at their place of business. The slow times that so many furnace men seem to be complaining about at this time have evidently not

found either Fred or Ed in, as they seem to be going along on an even tenor of their way with plenty of work to keep them busy. While in their store I also had the pleasure of meeting my friends A. R. Gibb of the Benjamin Wolff & Company, and M. J. Hinch, Chicago representative of the Lennox Furnace Company.

* * *

R. C. Walker, president and general manager of the newly organized Midland Furnace Company, Columbus, Ohio, came into our office on Wednesday of this week. Mr. Walker has just returned from a sojourn in California and other west coast states which began shortly after the first of the year. He is looking fine, and he gave us some interesting accounts of his hikes in the mountains, his visits to the much talked about Yosemite valley, the red wood forests of California, the beauties of Lake Tahoe, and his trips to logging camps and gold mining districts, all of which fired the imagination to a high degree. Roy says he would like to spend every winter in California for play, but when he puts on his overalls again for work he wants to be in the middle west.

* * *

A mine superintendent, who had gone down into the lower levels to talk to a crew of men imprisoned by a cave-in, was getting their last messages.

"George," he shouted to one colored miner through a narrow aperture, "are you married?"

"Nossuh," answered a lugubrious voice, "dis hyah am de wustest fix Ah evah been in yit."

* * *

A very pretty little girl of seven, carrying a small doll, entered a dry goods store the other day and said: "I want some cloth to make my dolly a dress."

"How much is it?" she asked when the merchant handed her the package.

"Just one kiss," he replied.

"All right," she said, "Grandma said she would pay you when she came in tomorrow."

Wide Variation Found in Furnace Bids Submitted in Cleveland Convention Estimate

Prize Winner Takes Job at \$22 Above Official Estimate—Winner Charles Spindler

AT THE recent convention of the National Association of Sheet Metal Contractors' Association in Cleveland one entire afternoon was given over to the correct method of estimating the sheet metal work and the furnace installation of a certain home in Cleveland that was being erected at the time. Bids were submitted and checked with the official estimate to determine how near the contractor came to the official bid.

In this article we will describe the warm air furnace installation. The official estimate for this was made by D. A. Mannen of Mannen & Roth Company, Cleveland. The official selling price of the job was \$473.31. The job was let to Charles Spindler, whose price was \$495.85, this being the nearest bid to the official estimate.

That there is a great deal of room for improvement in the methods of figuring warm air heating installations as they are now done is evident in the estimates that were turned in on this furnace installation. Other bids ran as follows: \$433.96, \$350.50, \$438.44, \$378, \$356.50.

It should be explained that the cost of labor, which would, of course, vary with different localities, the price of the furnace and fittings and the number of each were given. The following are the specifications:

Furnace

"Furnace to be No. 26," equipped with water pan and 26-gauge galvanized iron casing and pitch top. Casing to be double between middle and upper casing rings. Connection to the chimney to be made with a 9" galvanized pipe, 24-gauge.

In setting the furnace, each cut joint is to be filled with asbestos cement, and after castings are put in place excess cement is to be carefully wiped off. When base ring is

put in place, same is to be cemented to the floor with Portland cement.

PRICE LIST OF FURNACES AND FITTINGS

26" Furnace and casing	\$120.00
9" No. 24-ga. galvanized pipe, per foot26½
9" Galvanized ells, each55
9" Cast dampers...	.40
12" Tin pipe, per ft..	.25
10" Tin pipe, per ft..	.19
9" Tin pipe, per ft..	.17
12" Tin ells, each...	.50
10" Tin ells, each...	.30
9" Tin ells, each...	.25
12" Tin angles, each...	.34
10" Tin angles, each...	.17½
9" Tin angles, each...	.15½
12" Dampers, each...	.28
10" Dampers, each...	.22
9" Dampers, each...	.20
Cold air faces, each...	2.70
11x13 Register, ox. copper, each.....	2.92
9x12 Register, ox. copper, each.....	1.94
8x12 Register, white, each	1.25
8x10 Register, white, each	1.02
Baseboard, single heads, each.....	.15
Baseboard, double heads, each.....	1.15
Baseboard boots, each	1.20
No. 8 wall pipe, per foot50
No. 7 wall pipe, per foot45
No. 8 heads, each...	1.10
No. 7 heads, each...	1.05
No. 8 boots, each....	1.17½
No. 7 boots, each....	1.05
Covering, paper and paste, per lineal ft.	.02

Regulator for operating dampers on furnace to be located at convenient

point on first floor. Chain to be properly connected and to run free.

Air Supply

Cold air to be supplied to the furnace through:

No. 1—A 14x30 oak fabrikated face or a 20x30 wood face, connected to a 20" galvanized pipe and to the furnace by a suitable transition boot, located in living room.

No. 2—A 12x30 oak fabrikated face or an 18x30 wood face, connected to an 18" galvanized pipe and to the furnace by a suitable transition boot, located in dining room.

No. 3—An 8x42 fabrikated face or a wood face, connected to an 18" galvanized pipe and to the furnace by a suitable transition boot.

Where boxing or square pipe is used the net area is to be increased 15%. All cold air piping to have as much downward pitch as possible, and where connection is made from square to round pipe an easy transition is to be made.

A baffle plate is to be placed between each cold air boot inside of the casing and made to fit tightly. All joints to be wrapped with asbestos paper and made air-tight.

Boxing beneath face on inside to be painted black.

Warm Air Pipe and Registers

Living room to have 11x13 register No. 11 fitting, 12" basement pipe.

Dining room to have 11x13 register No. 11 fitting, 12" basement pipe.

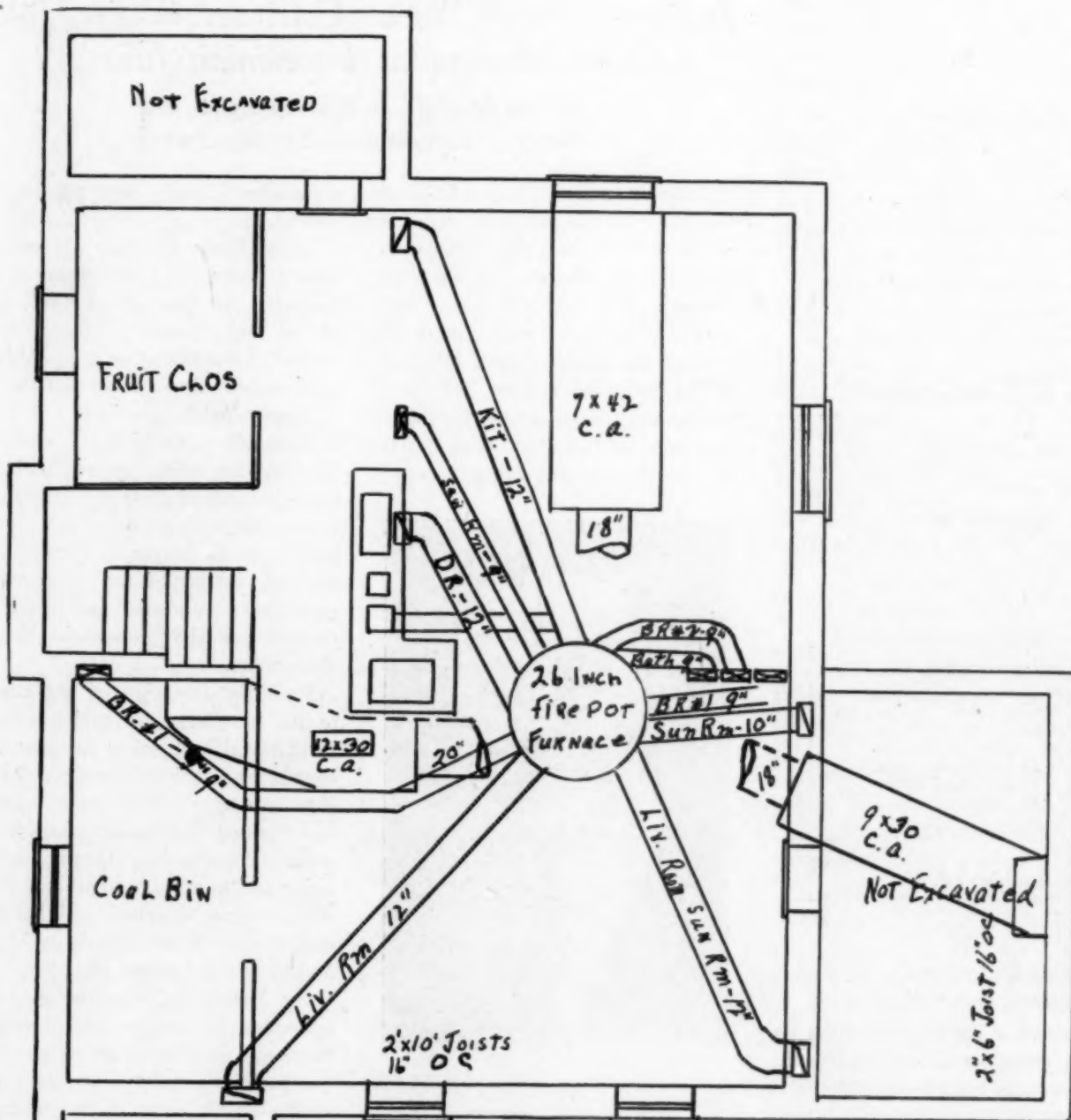
Kitchen to have 11x13 register No. 11 fitting, 12" basement pipe.

Living and sun room to have double 9x12 register No. 18 fitting, 12" basement pipe.

Sun parlor to have 9x12 register No. 9 fitting, 10" basement pipe.

Bedroom No. 1 to have two 8x12 registers, two No. 8 stacks, two 9" basement pipes.

Bedroom No. 2 to have 8x10 reg-



Heating Plan of House Figured at Convention

an upward pitch of at least 1 foot in 10 feet.

Equipped with dampers and joints covered with 10-lb. asbestos paper.

The job is to be left in a neat and workmanlike manner.

(If installed in accordance with the foregoing specifications this heating system will be covered by the Moncrief guarantee of heating satisfaction.)

The official estimate was tabulated as follows:

No. 26A furnace and casing.....	\$120.00
9" Gal. pipe—8' No. 24 gauge.....	2.16
9" Gal. ells—1.....	.55
9" Cast damper—1.....	.40

Return Air Pipe—No. 26-Ga. Gal.

9"x30"—9'-2'-11'.....	18.86
18" Rd.—5'-4'-8'-8'-25'.....	
12"x30"—8'-2'-10'.....	
20" Rd.—3'-8'-11'.....	
7"x42"—9'-2'-11'.....	

Tin Pipe—

12"—11'-13'-14'-6'-44'.....	11.00
10"—5'.....	.95
9"—4'-3'-6'-9'-14'-36'.....	6.12
12" Ells—4.....	2.00
10" Ells—1.....	.30
9" Ells—5.....	1.25
12" 45s—6.....	2.04
10" 45s—1.....	.18
9" 45s—7.....	1.12
12" Dampers—4.....	1.12
10" Dampers—1.....	.22
9" Dampers—5.....	1.00

Fabricated Faces—

14"x30"—12"x30"—8"x42"....	8.10
----------------------------	------

Registers—

Base board—11"x13"—3.....	8.76
9"x12"—3.....	5.82

ister, No. 7 stack, 9" basement pipe.

Ser. room to have 8x10 register, No. 7 stack, 9" basement pipe.

Bath No. 1 to have 8x10 register, No. 7 stack, 9" basement pipe.

All warm air pipe to be run with

8"x12"—2	2.50
8"x10"—2	3.06
8"x10"—1	
Base board boots No. 11—3.....	5.75
Base board heads No. 18—1.....	6.00
No. 9—1.....	
2 Risers No. 8—13'-13'-26'.....	13.00
3 No. 7—13'-13'-13'-39'.....	17.55
No. 8 heads—2.....	2.20
No. 7 heads—3.....	3.15
No. 8 boots—2.....	2.36
No. 7 boots—3.....	3.15
Miscellaneous—Solder, etc.....	2.00
Covering	1.70
Return air pipe.....	50.28
Furnace erections (inc. base, pipe and registers).....	16.00
Wall pipe erection.....	10.00
	<hr/>
	\$330.65
10% on furnace.....	12.00
40% on labor—40% on material..	84.00
	<hr/>
	\$426.65
10% Profit.....	46.66
	<hr/>
Selling price	\$473.31

Mr. Spindler's figures, which won the prize for the furnace installation, ran as follows:

Furnace and casing.....	\$190.00
5 Stacks	105.00
1 12-in. living room and sewing room	22.00
1 12-in. living room and sewing room	19.00
1 12-in. dining room.....	19.00
1 12-in. kitchen	19.00
1 9-in. sun room.....	15.50
1 20-in. cold air living room.....	27.00
1 18-in. cold air dining room.....	23.00
1 18-in. cold air.....	23.00
Smoke pipe	5.00
	<hr/>
	\$467.50
Liability insurance	23.35
	<hr/>
	\$490.85

How Can I Eliminate Sweating in an Ice Box?

I am after some information on how to eliminate condensation in an ice box that I made myself. The difficulty I have experienced is that the ice rack sweats, large drops of water forming on the under side of the rack and then dropping down into the food partition. There are two cold air openings in the bottom of the ice compartment. These are covered with the ice rack upon which the ice cake rests. My difficulty is to eliminate the sweating, and I do not know how to do this. Perhaps some of your readers could tell me what to do in a case like this.

Yours very truly,

FARNAM SHEET METAL WORKS.
Omaha, Nebraska.

Anyone having experience of this kind can be of assistance here.

Indiana Sheet Metal Contractors to Hold District Meeting at Vincennes, June 29

Meeting Will Be an Evening Affair with Dinner — Everybody in Territory Invited

THE directors of the Indiana Sheet Metal Contractors' Association, following the policy outlined at the annual meeting last January, have called a second district meeting for Vincennes, to be held at the Union Depot hotel at 6:00 p. m. Friday, June 29th.

The first of these district meetings was held at Fort Wayne. It was very successful, being attended

attendance from the Vincennes district.

A. W. Dudley of Terre Haute is looking after the Terre Haute contingent. An incomplete check up of the Terre Haute contractors indicated that a matter of a dozen expect to drive down from that city.

Homer Selch, president of the Indianapolis Association, who is boosting the affair among Indianapolis contractors, has the names of nine so far who expect to make the trip. Jos. E. Moyer of Evansville, finds a number of the Evansville contractors interested and expects to have a good representation from Evansville.

It is the intention of the committee in charge to invite every sheet metal and warm air heating contractor within convenient driving distance of Vincennes to attend this meeting. All such contractors are asked to consider this their invitation and to arrange to attend. The only expense attached will be the cost of the dinner, which will not exceed one dollar per plate.

O. Voorhees, who is general chairman in charge of arrangements, is very much gratified with the response he has had from all sections. The date of the meeting seems to fit in well, following the national convention, and preceding the summer activities. Reports coming to him from various people who at one time or another have attended Vincennes meetings, confirm his opinion that the Vincennes business men are a very live outfit and can be depended upon to furnish the setting for a very interesting and peppy session.

President Waters of the State Association, has called a directors' meeting for that time and place. It is his desire to have the directors there an hour or so in advance of the meeting time, so as to go over state affairs briefly.



William Waters

by over sixty sheet metal and heating contractors and a goodly number of jobbers and manufacturers. These meetings, while they are under the auspices of the state association, are open to non-members among sheet metal and heating contractors as well as members of the state organization. Manufacturers and jobbers are invited to attend, or send their representatives. Also representatives of the trade papers.

The arrangements at Vincennes are in charge of W. C. Teschner and a Vincennes committee. Mr. Teschner reports that arrangements are going ahead satisfactorily and that he anticipates a 100 per cent

Can a 20-Inch Fire Pot Be Used in a 22-Inch Warm Air Furnace?

*One Furnace Salesman Thought
So, But Thereby Lost a Friend*

A LETTER right off the firing line in the warm air furnace selling end comes to us from G. W. Higgins, 309 South Ashley Street, Ann Arbor, Michigan, representing the Kalamazoo Stove Company. Mr. Higgins writes as follows:

309 S. Ashley St.

Ann Arbor, Mich.

June 15, 1928.

I have been reading Alfred L. Jordon's articles on steam in the May 26th and June 9th issues of AMERICAN ARTISAN, and while I think steam is a thing we warm air salesmen have to contend with, it is not the meanest job we have by far.

It is largely the men who are selling warm air heating systems today that are making it hard for all of us. Picture a young fellow sitting in his little five or six room bungalow listening to some of our own warm air salesmen and buying from them only to get stung. Here is what took place in my territory last week:

The salesman from the (blank furnace co.) we will say, goes into a home and sells the owner a warm air job, telling him he has the best job, better than any of the rest. Then seeing that the man cannot pay cash the salesman tells the prospect that he has a second hand job that has been used one season; that it is a 20-inch fire pot, but he needs a 22-inch so he will just put a 22-inch fire pot in the old 20-inch using all the rest of the old castings thereby cutting the cost of the job. Now any one knows that cannot be done. The same salesman sold a job to a man that was all for steam on trial. He figured the job too low, so he puts in too small a furnace. Of course it did not heat and now just let any one say warm air to that man.

Do those things help us out? Do they help the fellows that are believers enough in warm air to push

it and study it so they can always figure and estimate a job and know it is going to heat before they install it? No it doesn't, and it is the hardest thing we in the field have to contend with. As soon as the furnace manufacturers themselves try to eliminate this kind of salesmen, the fellows in the field can sell more and larger jobs and both company and salesman make more money.

Institute of Thermology to Be Established at Holland, Michigan

Establishment of the Holland Institute of Thermology, with the object of improving the heating and ventilating equipment of homes throughout the country, has been announced by A. H. Landwehr, Holland, Michigan. Mr. Landwehr stated that the Institute will be given ample scientific resources "to teach the American home-owner in a practical way the science of heating and ventilation in relation to health."

"This object, of course, has many ramifications into numerous trades and industries," Mr. Landwehr remarked. "In founding the Institute of Thermology, I hope to be able to make a worthwhile contribution to health conditions. A prominent research engineer will be placed in charge of the tests and investigations that will be made, and the results will be made available to the public from time to time in the form of reports of findings of the staff."

Among the subjects scheduled for investigation are:

1. Fuels—The most economical ways of using our national fuel resources.
2. The national economic loss due to soot, and how it can be prevented.
3. Diseases resulting from improper or inadequate humidifying of dwellings.
4. Seasonal occurrence of certain

respiratory diseases and its modification by control of humidity, temperature and circulation of air in dwellings.

5. The amount of heat, and consequently of money, lost in the average American building because of improper construction and methods of correction.

6. Effects of excessively dry interior atmospheres upon rugs, furniture, musical instruments and other furnishings, and methods of prevention.

7. Medical analysis of all phases of air-conditioning so that the atmosphere of the home, office and factory may contribute to health and efficiency of occupants.

8. Number of air-changes required in each room per hour to keep the atmosphere that is breathed free from noxious germs.

9. Methods by which air may be sterilized in order to minimize circulation of disease-ridden air through buildings.

Lennox Furnace Co. Established in Canada—Geo. D. McCluskey Will Manage Company

A charter has been granted by the government of the Dominion of Canada to the Lennox Furnace Company, Limited. Headquarters of the company were opened last week in the Terminal Warehouse Building, Toronto, Ontario, and in the future all of the Canadian business will be transacted through that office, both sales, collections and any other matters pertaining to the business. In other words there is now another, or third Lennox Furnace Company, with a complete organization set up in the Dominion of Canada.

George D. McCluskey who was for about twenty-five years connected with the sales department of McClary's Ltd. of Canada as Sales Manager, will have direct management of the Canadian business. Mr. McCluskey now has a sales force of four men besides himself covering the Canadian territory from Saskatchewan through east to the Atlantic Coast.

Fox Furnace Company Out with New Deferred Payment Financing Plan

Recognizing the trend toward the time payment plan of buying all manner of articles, the furnace manufacturers have turned their attention toward providing methods of deferred payment financing heating system purchases. The latest of these time payment plans to come to our attention is that of the Fox Furnace Company, Elyria, Ohio, makers of Sunbeam warm air heating equipment.

In this new financing plan of the Fox Furnace Company there are five outstanding features as follows:

1. Purchasers may have two years to pay for the installation.
2. A \$10 down payment by the purchaser closes the sale.
3. The second payment can be deferred for several months; the first monthly payment can be deferred until September; when the sale is made before or during the Christmas season the first monthly installment can be delayed until March.
4. The furnace installer gets all of his money immediately.
5. The carrying charges are low.

It is not the intention of the Fox Furnace Company to permit the use of this plan indiscriminately. In order to be eligible for the service, the furnace installer must establish a credit rating with the Heating and Plumbing Finance Corporation, who will handle the deferred payment notes. The furnace installer must satisfy himself regarding the credit standing of each purchaser of heating equipment, his willingness and ability to pay as agreed. The endorsement of all notes is required by the furnace installer. The furnace installer must be absolutely certain at the outset that each and every purchaser is satisfied.

This financing plan is based upon sound business practice.

This company is also introducing an innovation in the heating industry in the production of an aluminum furnace. For complete details on the financing plan and the new furnace write to the Fox Furnace Company, Elyria, Ohio.

Revision of Kenosha, Wisconsin, Building Code in Progress

Work on the revision of the Kenosha building code is progressing favorably according to William E. O'Brien, city building inspector. Suggested changes were submitted by each of the building trades representatives and these suggestions were worked over and incorporated into the code.

Units covering footing and foundation, concrete construction, and chimney and heating apparatus have recently been completed. In addition to these units, another new unit, general administration, is to be incorporated into the code. This provides that inspections should be made of a building under construction at specially stipulated times. When one part of the structure is completed, the new unit provides that an inspection shall be made before the next part can be started.

Since the revision of the code extends into every phase of building, including designing, lay-out, material used, manner of construction, plumbing, heating, wiring, it is not expected that the code will be completed for some time.

Better Business and Publicity Committees of N. W. A. H. A. Meets at Cleveland

A joint meeting of the Better Business and Publicity Committees of the National Warm Air Heating Association, together with the Board of Directors of the Association, was held in Columbus, Ohio, on June 7, 1928.

General trade extension plans were discussed and among other things it was decided to establish a Speaker's Bureau so that associations or conventions desiring to have someone discuss one or another of the phases of warm air heating might get in touch with competent speakers through Allen W. Williams, secretary of the association.

Although the committees have no definite announcements to make at the present time, they are hard at work on the program contemplated

in the general set-up established at the Chicago convention in April.

Two Valuable Publications Issued by Robinson Furnace Co.

The A. H. Robinson Company, Massillon, Ohio, has recently issued two very comprehensive booklets descriptive of their products; namely, the new Robinson electric welded furnace and the Robinson heat distributor.

These two booklets not only show the products of the Robinson company, but also include many facts which can be used by the warm air furnace installer to overcome sales resistance. In the furnace booklet some of the more outstanding advantages of the Robinson electric welded furnace are outlined. The Bee-T-yoU model and the Quick Action "Gas Type" furnaces are also prominently featured in the catalog.

Then there are don'ts for furnace users. Registers and clothes chutes are also given considerable prominence, as are prices.

Any furnace installer who is not thoroughly familiar with the possibilities of the forced air principle as applied to warm air heating cannot well afford to overlook this opportunity to learn about it. The Robinson way, of course, is to place the fan in the bonnet of the furnace. All furnace bonnets are not made alike, and the different methods of installation are very interestingly portrayed in this catalog.

No furnace installer can really overlook these two very interesting booklets of the Robinson Furnace Company, Massillon, Ohio. They contain material of great value to the furnace industry. Write for them.

How Can I Make a Chicken Feed Hopper?

I would like to have some information of designing a galvanized iron chicken feed hopper that will hold about 100 pounds of feed, not over four feet long. Must be so arranged that hens cannot roost upon it. WILLIAM P. BROWN.

Cleveland Warm Air Heating Association Headed by E. M. Stollenmeyer

The Cleveland Warm Air Heating Association held a very well attended regular monthly meeting on June 14. The principal speaker of the meeting was W. H. Hill of the Fox Furnace Company, and his remarks were designed to show those in attendance, particularly the new members, the extreme value of organized cooperative effort. Mr. Hill stressed particularly the value of an organization in bucking politics to get a Standard Code ordinance passed.

The Cleveland warm air heating men have a very well knit organization of which they are duly proud. They are at the present time working to get the Standard Code into the Cleveland Building ordinance, and the way things look to them now they will have a very good chance of accomplishing their objective within the near future. Anyone who has had anything to do with work of this kind knows that it cannot be accomplished single-handed; it must have the force of an organization back of it before the powers that be will give it recognition.

The Cleveland organization is working along under the expert guidance and direction of E. M. Stollenmeyer, Sales Manager of the Forest City-Walworth Run Foundries Company, who is its president, and James Saunders, Secretary. Mr. Stollenmeyer is well known throughout the warm air heating industry and is a familiar figure at all of the meetings of the National Warm Air Heating Association. Mr. Saunders, who was chairman of the Cleveland convention committee for the National Association of Sheet Metal Contractors, has also proved that he is a go-getter.

Study of Wind Pressures, Stresses to Be Taken Up at Ohio State U.

A research fellowship has been established at the Ohio State University, Columbus, Ohio, by the American Institute of Steel Con-

struction, to provide data that will afford a basis for uniform standard design in the wind bracing of tall buildings.

While skyscrapers have proved capable of withstanding the most severe winds, it is believed a further study of pressures, stresses, and elastic deformation will enable the engineer to design against wind pressure with a confidence which does not exist at the present time, due to the wide variations in the practice of different designers.

Watch for the "Gentleman" with Bad Teeth and Crying Eyes

A prominent warm air furnace man sends in the following warning about a "gentleman" who it appears is getting money under false pretenses:

"Please be advised that there is a soft-spoken, well-dressed confidence man working among the furnace manufacturers and dealers in the middle west, obtaining small loans and cashing forged checks. He uses the following method: Claims to be connected with the J. W. Cooper Co. of Springfield, Illinois, in capacity as salesman, a brother of J. W. Cooper and some times passes himself as J. W. Cooper.

"The writer has been buncoed out of a small amount by this soft-spoken stranger. After my suspicions were aroused, I wrote to the J. W. Cooper Co., of Springfield, Ill., and was advised that he is a rogue and a rascal, and has operated in Chicago and St. Louis, Cincinnati and Indianapolis under different aliases.

"His description is as follows: About fifty years old, weight one-hundred and fifty to one-hundred and sixty pounds, height five feet and ten inches, bad teeth upper and lower, crying eyes; soft, modulated voice; intelligent and thoroughly familiar with warm air heating and practice.

"The writer thought you would be glad to broadcast this information for the good of the industry through your valuable journal, my name of course withheld."

Colburn Heater Company, Chicago, Inaugurates New Sales Policy

R. R. Wallace, sales manager of the Colburn Heater Company, Chicago, speaking for that company, says that the company on all of its advertising will spread the gospel, "We sell only to recognized furnace dealers."

The new literature for promoting sales of the company is fully descriptive of the Col-Burn heater, showing how it burns any kind of coal, humidifies the air and ventilates the whole house and how it can be used with an oil burner.

Full information concerning this new sales policy of the Colburn Heater Company can be had by writing their office, 1955 North Long Avenue, Chicago.

Milcor Issues Attractive Folder on Spanish Tile Copper Roofs

The Milwaukee Corrugating Company, Milwaukee, Wisconsin, has recently issued a very attractive folder illustrating the Spanish motif in copper roofing. This folder is produced in green color, showing the excellent effects that can be produced with copper Spanish tile. It can be used to good advantage in selling large home owners and architects on the copper tile roof.

Theodore Sproull Becomes Head of National Association Flat Rolled Steel Manufacturers

E. Theodore Sproull, former commissioner of the Hot Rolled Strip Steel Institute, has been elected secretary and treasurer of the National Association of Flat Rolled Steel Manufacturers, Cleveland, succeeding Walter E. Lower, who resigned recently.

To Open Sheet Metal Shop at Ada, Minnesota—Wants Catalogs

Walter H. Vilmo, Ada, Minnesota, is opening a sheet metal shop in that city and is desirous of receiving catalogs on tinner's tools such as rollers, crimpers, beading tools, wiring machines, stove pipe crimpers, etc.

Buyers Hold Off in Expectancy of Lower Steel Prices

Inquiries for Third Quarter Not Being Made—Raw Materials Easier

IRON and steel consumers generally have marched up to the brink of the third quarter with practically no commitments and apparently in command of the price situation. In pig iron there has been a little more show of activity than in steel, largely because concessions have been developed. Only occasional contracts for finished steel are booked, these being chiefly for the lighter lines and at current levels.

Steelmaking Rates Fall Rapidly

With mill backlogs fast vanishing as a result of curbed buying, more steelmaking capacity has been dropped. For the first time in months, Steel corporation subsidiaries have fallen below the rate of a year ago; this week they are operating at 76 per cent, compared with 79 last week and 78 a year ago. Independent producers average 70.5 per cent this week, fractionally higher than last June, and the entire industry is producing at approximately 73 per cent.

Sheet Contracting Not Proceeding Fast

A few third quarter contracts for sheets have been taken in the East but in the Pittsburgh and Chicago districts only day-to-day needs are forthcoming. Galvanized continues the most highly competitive grade, with as low as 3.50c, Pittsburgh, done. On blue annealed sheets the range is 1.90c to 2.10c, although some makers will not go below 2.00c, while on black sheets 2.65c is a fair minimum. Delivered prices at Chicago are off \$1 to \$2 per ton. Mahoning valley sheet mills are operating 77 per cent this week, against 85 per cent last week. Tin plate operations are not far from capacity.

Although the railroad equipment market is not brisk, the May showing undoubtedly will be bettered this month.

Pig Iron

At Pittsburgh the pig iron market presents contrary currents. The foundry grades are showing increased weakness while makers of basic are endeavoring to restore former quotations. Both valley and Pennsylvania steelworks interests are quoting \$16 on a \$1.76 freight rate here, uniting with merchant stacks which have been naming that figure right along. Some special analysis malleable has brought \$17.25, valley, other malleable is quoted at \$17. One valley merchant stack has indicated a foundry inquiry in excess of 5,000 tons. A small number of No. 2 foundry sales have been booked at both \$16.75 and \$17, valley.

Sales of northern pig iron are declining this month at Chicago, but shipments still are far in excess of production, with only four of the nine merchant furnaces of the district blowing. Fewer large inquiries are before the market but several important buyers are considering their third quarter and even last half needs. The price of \$18, base, Chicago furnace, is being quoted generally for spot and forward shipments.

Pig iron shipments at Birmingham continue ahead of the make and are mostly on regular second quarter contracts. So far the trade has given but little indication as to needs for third quarter. No. 2 foundry is \$16.

Copper

The market is at 14.75c, Connecticut, and 15.00c, c.i.f., European ports. Domestic buying has been light and mostly for August. Export demand has continued large until the past day or two. Stocks of refined copper in producers hands at the beginning of this month were 66,288 tons, a little less than two weeks' shipments, the lightest proportion that has prevailed since the war.

Tin

This metal has been in large supply but with slack buying, so that there has been selling pressure here, in London, and in the Orient. While buying was in progress the price responded a little, going as high as 47.75c, but before the end of the day sellers offered the metal at 47.37½c. Users lately have avoided buying futures as much as possible but on Monday they bought as far ahead as January.

Zinc

Demand has not been large but with ore production curtailed prices have held remarkably well. Producers expect buying to broaden out soon. The market is in a firm position statistically although stocks increased slightly during May. Shipments, however, increased during the month while little change in the rate of production was reported.

Lead

Prices are holding well at 6.30c, New York, and 6.15c, East St. Louis. Some good buying has been done here the past day or so and has helped to support the market in the face of easiness abroad. The statistical position of lead is the best in some time.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$31.00; Commercial 45-55, \$28.00; plumbers', \$25.00, all per 100 pounds.

Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$15.75 to \$16.25, old iron axles, \$23.50 to \$24.00; steel springs, \$16.50 to \$17.00; No. 1 wrought iron, \$11.25 to \$11.75; No. 1 cast, \$12.75 to \$13.25; all per net tons. Prices on non-ferrous metals are quoted as follows, per pound: Light copper, 9¾ cents; zinc, 3½ cents; cast aluminum, 12¼ cents.

A plain statement of facts

MORE than twenty years ago the first commercial oxygen for welding and cutting was produced—Linde Oxygen.

From that day on, Linde has been the standard with which all others are compared.

It has always had by far the largest sale of any oxygen.

There are three reasons for this:

- uniform high quality
- immediate delivery
- Linde Process Service—that insures the most economical results for Linde customers.

THE LINDE AIR PRODUCTS CO.

Unit of Union Carbide and Carbon Corporation

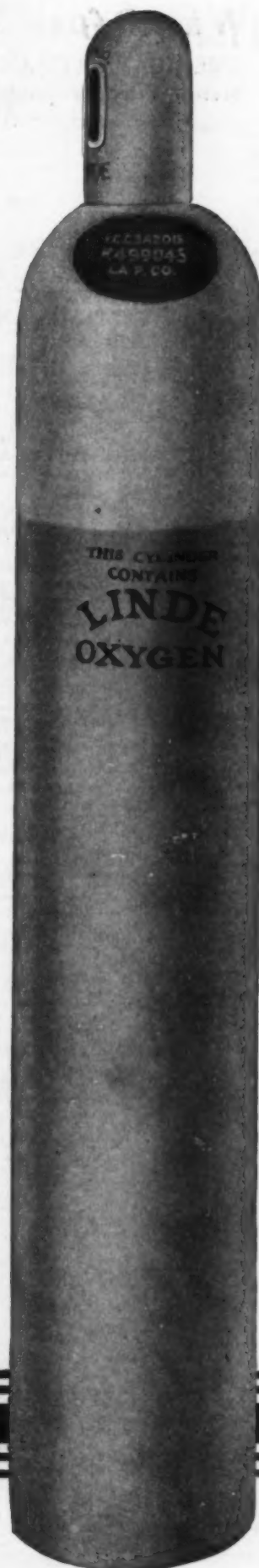
49 PLANTS



102 WAREHOUSES

General Offices: Carbide and Carbon Building
30 East 42d Street, New York

LINDE OXYGEN



Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

METALS

PIG IRON

Chicago Fdy.	
No. 3	\$18.00
Southern Fdy. No. 2	22 01
Lake Superior Charcoal	27 04
Malleable	18.00

FIRST QUALITY BRIGHT TIN PLATES

1C 30x36 112 sheets	\$25 10
IX 30x36	29 60
IXX 30x36 66 sheets	16 20
IXXX 30x36	17 65
IXXXX 30x36	18 95

TERNE PLATES

IC 30x36, 40-lb. 112 sheets	\$26 00
IX 30x36, 40-lb. 112 sheets	27 75
IC 30x36, 25-lb. 112 sheets	21 15
IX 30x36, 25-lb. 112 sheets	22 80
IC 30x36, 20-lb. 112 sheets	19 65
IX 30x36, 20-lb. 112 sheets	21 05
IC 30x36, 15-lb. 112 sheets	18 05

"ARMCO" INGOOT IRON PLATES

No. 8 ga. up to and including	
1/4 in.—100 lbs.	\$4 55

COKE PLATES

Cokes, 80 lbs., base, 20x36	\$13 00
Cokes, 90 lbs., base, 20x36	13 80
Cokes, 100 lbs., base, 20x36	14 00
Cokes, 107 lbs., base, 1C	
30x36	14 20
Cokes, 125 lbs., base, IX	16 40
20x36	
Cokes, 155 lbs., base, 56	9 30
Cokes, 175 lbs., base, 56	
sheets	10 05
Cokes, 195 lbs., base, 56	
sheets	10 30

BLUE ANNEALED SHEETS

Base 10 ga.	per 100 lbs. \$2 50
"Armco" 10 ga.	per 100 lbs. 4 00

ONE PASS COLD ROLLED BLACK

No. 18-20	per 100 lbs. \$3 75
No. 22	per 100 lbs. 3 90
No. 24	per 100 lbs. 3 95
No. 26	per 100 lbs. 4 05
No. 27	per 100 lbs. 4 10
No. 28	per 100 lbs. 4 20
No. 29	per 100 lbs. 4 35
No. 30	per 100 lbs. 4 45

"ARMCO" GALVANIZED

"Armco" 24	per 100 lbs. \$6 15
------------	---------------------

GALVANIZED

No. 16	per 100 lbs. \$4 30
No. 18	per 100 lbs. 4 45
No. 20	per 100 lbs. 4 60
No. 22	per 100 lbs. 4 65
No. 24	per 100 lbs. 4 80
No. 26	per 100 lbs. 5 05
No. 27	per 100 lbs. 5 15
No. 28	per 100 lbs. 5 20
No. 30	per 100 lbs. 5 70

BAR SOLDER

Warranted	
50-50	per 100 lbs. \$22 25

Commercial	
45-55	per 100 lbs. 29 25
Plumbers	per 100 lbs. 26 25

ZINC

In Slabs	\$ 8 50
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SHEET ZINC

Cask Lots (600 lbs.)	\$10 75
Sheet Lots	11 75

BRASS

Sheets, Chicago base	18 1/2 c
Mill base	18 1/2 c
Tubing, seamless base	27 1/2 c
Wire, base	18 1/2 c
Rods, base	16 1/2 c

COPPER

Sheets, Chicago base	24 1/2 c
Mill base	23 1/2 c
Tubing, seamless base	19 1/2 c
Wire, No. 2, B & S Ga.	19 1/2 c
Wire, No. 10, B & S Ga.	19 1/2 c
Wire, No. 11, B & S Ga.	20 1/2 c
Wire, No. 3, B & S Ga. and heavier	19 c

LEAD

American Pig	\$7 30
Bar	8 30

TIN

Pig Tin	per 100 lbs. \$55 00
Bar Tin	per 100 lbs. 56 00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

Paper up to 1/16	6c per lb.
Roll board	8 1/2 c per lb.
Mill board 2/32 to 1/2	8c per lb.
Corrugated Paper (250 sq. ft. to roll)	\$6 00 per roll

BRUSHES

Furnace Pipe Cleaning	
Bristle, with handle, each	\$0 75

Flue Cleaning

Steel only, each	1 35
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BURRS

Copper Burrs only	40-2 1/2 c
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CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 45
American Seal, 10-lb. cans, net	85
American Seal, 25-lb. cans, net	2 25
Pecora	per 100 lbs. 7 50

CHIMNEY TOPS

Adams' Revolving	Wt. Doz. Price Doz.
4 in.	21 lbs. \$11 00
6 in.	24 lbs. 11 50
7 in.	30 lbs. 12 50
8 in.	33 lbs. 15 00
9 in.	51 lbs. 16 50
10 in.	58 lbs. 18 00
12 in.	66 lbs. 22 00
14 in.	110 lbs. 36 00

CLINKER TONGS

Each	\$0 75
Per doz.	8 40

CLIPS

Damper	
No-Rivet Steel, with tall	
pieces, per gross	\$9 50
Rivet Steel, with tall	
pieces, per gross	7 50
Tall pieces, per gross	2 40

COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

CORNICE BRAKES

Chicago Steel Bending	
No. 1 to 6B	Net

CUT-OFFS

Gal., plain, round or cor. rd.	
26 gauge	30 c
28 gauge	35 c

DAMPERS

"Yankee" Hot Air	
7 inch, each 28c, doz.	\$1 60
8 inch, each 28c, doz.	2 20
9 inch, each 28c, doz.	3 80
10 inch, each 33c, doz.	3 80

Smoke Pipe	
7 inch, doz.	\$1 40
8 inch, doz.	2 20
9 inch, doz.	3 00
10 inch, doz.	3 75
12 inch, doz.	4 50

ADAMS No. 1 CHECK

Check and Collar Complete	
8 inch, each	2 00
9 inch, each	2 25
End Check Only	
8 inch, each	1 60
9 inch, each	1 85

Collar Only	
8 inch, each	50
9 inch, each	65
No. 2 CHECK	
8 inch, each	1 00
9 inch, each	1 00

10% Disc. on Adams No. 1 and No. 2 Check	
Diamond Smoke Pipe	
7 inch, doz.	\$ 2 00
8 inch, doz.	2 20
9 inch, doz.	4 80
10 inch, doz.	6 00

Adams' Sheet Metal

7 inch, doz.	\$ 1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	2 80
12 inch, doz.	3 50
14 inch, doz.	5 00

EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%	
Zinc, "Barnes"	60 c

ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp.	
28 Gauge	60 c
26 Gauge	45 c
24 Gauge	15 c

Galv. & Terne Steel

Plain Rd. and Rd. Corr.	
28 Ga.	60 c
26 Ga.	45 c
24 Ga.	15 c

Square Corrugated

No. 28 Gauge	50 c
26 Gauge	35 c

Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested	70 & 5 c
Nested Solid	70 & 5 c

Sq. Corr., A. & B. & Octagon

28 Ga.	50 c
26 Ga.	35 c

Portico

1", 1 1/4", 1 1/2"	45 c
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Copper

16 oz., all designs	50 c
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Zinc

All styles	60 c
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ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue "Milcor" No. 28 Gauge, Doz.	
5-inch	\$1 05
6-inch	1 20
7-inch	1 75

Special Corrugated

6-inch	\$1 00
7-inch	1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge, Uniform Blue.	
5-inch	\$1 65
6-inch	1 75
7-inch	2 10

WOOD FACES—50% off list.

FENCE

736-6-12 1/4 (100 rods)	\$28 68
1948-6-14 1/4 (100 rods)	43 62

FILES AND RASPS

Heller's (American)	50-10 c
American	60-10 c
Arcade	50 c
Black Diamond	50 c
Eagle	50 c
Great Western	50 c
Kearney & Foot	50 c
McClellan	50 c
Nicholson	50 c
Simonds	60 c

FIRE POTS

Geo. W. Diener Mfg. Co.	5c
No. 02 Gasoline Torch, 1 qt.	\$ 13
No. 0250, Kerosene, or Gasoline Torch, 1 qt.	5 50
No. 10 Tinner's Furn. Square tank, 1 gal.	11 30
No. 15 Tinner's Furn. Round tank, 1 gal.	10 70
No. 31 Gas Soldering Furnace	3 60
No. 110 Automatic Gas Soldering Furnace	10 50

Quick Meal Stove Co.

Vesuvius, F. O. B. St. Louis 30 c	
(Extra Disc. for large quantities.)	

GALVANIZED WARE

Pails (Galv. after made), 10-qt.	\$2 00
Tubs (Galv. after made), No. 1	5 75
No. 2	6 50

GLASS

Single Strength, A, 52-in. brackets	89-5 c
Single Strength, 9, 34 to 40-in. brackets	89-5 c
Single Strength, A, all other brackets	89-5 c
Double Strength, A, all sizes	89 c

HANGERS

Conductor Pipe	
Milcor Perfection Wire	25 c
Milcor Triplex Wire	10 c

Eaves Trough

Milcor Steel (galv. after forming) List	plus 13 1/2 c
Milcor Self-Seal E. T. Wire, List	plus 50 c

HOOKS

Conductor	
"Direct Drive" Wrought Iron for wood or brick	15 c

HUMIDIFIER

"Front-Range" Automatic	
In single lots	50 c
In lots of 10 or more	50-5 c
In lots of 25 or more	50-10 c
Vapor pans, etc., each	50 c

LIFTERS

Stove Cover	
Coppered	per gro. \$6 00
Alaska	per gro. 4 75

MALLETS

Tinners	
Hickory	per doz. \$2 25

MITRES

Galvanized steel mitres, 28 Ga.	70
26 Ga.	60-20

NAILS

Cut Steel	\$4 35
Cut Iron	4 30

Wire

Common	\$3 10
Cement Coated	3 10

(Continued on Page 156)



"First==

***because it's uniform
and easy to work"***

ARMCO Ingot Iron is always first choice with the Hahn Roofing and Heating Company, Birmingham, Alabama . . . First, because this highly-refined iron "is uniform and easy to work." It saves time and labor costs and produces a clean-cut, attractive job.

Mr. Hahn never figures any additional price over ordinary steel because, as he says, "the time saved in working ARMCO Ingot Iron more than makes up for the extra cost."

Besides the essential factor of workability, ARMCO Ingot Iron is renowned as a business builder. Especially, if you have an Ingot Iron Shop. National advertising, blotters, letterheads, direct mail campaigns—these and many other helps go with an Ingot Iron Shop franchise.

Ask our salesmen how you, too, can get more business and enjoy bigger profits as an authorized Ingot Iron Shop. Or, write us direct.



ARMCO
INGOT IRON
RESISTS RUST



ARMCO Distributors' Assn. of America

Executive Offices: Middletown, Ohio

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NETTING, POULTRY

Galvanized before weav-	ing.	60%
Galvanized after weaving.	50-10%	

PASTE

Asbestos Dry Paste:	
200-lb. Barrel.	\$16 00
100-lb. barrel.	8 75
35-lb. pail.	3 50
10-lb. bag.	1 10
5-lb. bag.	60
2½-lb. cartons.	35

POKERS, FURNACE

Each.	\$0 75
------------	--------

POKERS, STOVE

Nickel Plated, coil handles.	
Wrt Steel, str't or bent,	1 10
per doz.	\$0 75

PIPE

Conductor	
Cor., Rd., Plain Rd., or Sq.	

Galvanized	
Crated and nested (all	
gauges)	75-2¼%
Crated and not nested	
(all gauges)	70-15%

Furnace Pipe	
Double Wall Pipe and	
Fittings.	50%
Single Wall Pipe, Round	
Galvanized Pipe.	50%
Galvanized and Tin Fit-	
tings.	50%

Lead	
Per 100 lbs.	\$12 50

Stove Pipe

"Milcor" "Titelock" Uniform Blue	
Stove	
28 gauge, 5 inch U. C.	
nested.	10 50
28 gauge, 6 inch U. C.	
nested.	11 00
28 gauge, 7 inch U. C.	
nested.	15 00
30 gauge, 5 inch U. C.	
nested.	9 00
30 gauge, 6 inch U. C.	
nested.	10 00
30 gauge, 7 inch U. C.	
nested.	12 00

T-Joint Made up	
6-inch, 28 ga.	per doz. \$ 4 00

All Zinc	
No. 11, all styles.	60%

PULLEYS

Furnace Tackle.	per doz. \$0 55
.....	per gro. \$ 50
Furnace Screw (enameled)	
.....	per doz. 75

PUTTY

Commercial Putty, 100-lb.	
Kits.	\$3 50

QUADRANTS

Malleable Iron Damper.	10%
-----------------------------	-----

REDUCERS—Oval Stove Pipe

Per Doz.	
7-6, 28-gauge, 1 doz. in	
carton.	\$2 00

REGISTERS AND BORDERS

Baseboard, Floor and Wall.	
Cast Iron.	20%
Steel and Semi-Steel.	40%
Baseboard, 1 piece.	40-20%
Baseboard, 2 piece.	40%
Wall.	40%
Adjustable Ceiling Ventilators	
.....	40%

Register Faces—Cast and Steel

Japanned, Bronzed and	
Plated, 4x6 to 14x14.	40%
Large Register Faces—Cast,	
14x14 to 38x42.	60%
Large Register Faces—Steel,	
14x14 to 38x42.	65%

Ventilating Register	
Per gross.	\$ 00
Small, per pair.	30
Large, per pair.	50

RIDGE ROLL

Galv. Plain Ridge Roll,	
b'd'd.	75-10-1%
Galv. Plain Ridge Roll	
crated.	75-10%
Globe Finials for Ridge Roll.	50%

SCREWS

Sheet Metal	
7, ¼x¼, per gross.	\$0 52
No. 10, ¼x2/16, per gross.	00
No. 14, ¼x¼, per gross.	52

SHEARS, TINNERS' & MACHINISTS'

Viking.	\$22.00
Lennox Throatless	
No. 18.	35%
Shear blades.	10%
(f. o. b. Marshalltown, Iowa)	

SHIELDS, REGISTER

No. 1 "Gem" floor.	\$12 00 doz.
No. 2 "Gem" wall.	\$ 00 doz.

SHOES

Galv. 28 Gauge, Plain or cor-	
rugated round flat crimp.	60%
26 gauge round flat crimp.	45%
24 gauge round flat crimp.	15%

SNIPS, TINNERS

Clover Leaf.	40 & 10%
National.	40 & 10%
Star.	50%
Milcor.	Net

SQUARES

Steel and Iron.	Net
(Add for bluing \$3 per doz. net)	
Mitre.	Net
Try.	Net
Try and Bevel.	Net
Try and Mitre.	Net
Fox's.	per doz. \$5 00
Winterbottom's.	10%

STOPPERS, FLUE

Common.	per doz. \$1 10
Gem, No. 1.	per doz. 1 10
Gem, flat, No. 3.	per doz. 1 00

VENTILATORS

Standard.	30 to 40%
----------------	-----------

WIRE

Plain annealed wire, No. 8	
per 100 lbs.	\$3 05
Galvanized barb wire, per	
100 lbs.	3 00
Wire Cloth—black painted,	
12-mesh, per 100 sq. ft.	1 00
Cattle Wire—galvanized catch	
weight spool, per 100 lbs.	\$ 80
Galvanized Hog Wire, 30 rod	
spool, per spool.	3 15
Galvanized Plain Wire, No.	
8, per 100 lbs.	3 85
Stove Pipe, per stone.	1 10

WRINGERS

No. 790, Guarantee.	each \$5 10
No. 770, Bicycle.	each 4 70
No. 670, Domestic.	each 4 25
No. 110, Brighton.	each 3 70
No. 750, Guarantee.	each 5 10
No. 740, Bicycle.	each 4 70
No. 23, Pioneer.	each 3 40
No. 2, Superb.	each 2 65

THE EIERMANN
Patented
ROOFERS TOOLS
INTERCHANGEABLE BLADES

A New Blade. A New Tool Every Time. that's what counts, and the weight does the trick. You can do more work with less effort with this tool than any Built of metal throughout.

3 1/2" \$4.25
7" \$4.50
14" \$5.00

Extra Blades
3 1/2" 40c, 7" 70c,
14" 80c

Prices—Net. F.O.B. N.Y. Del. P.P. or otherwise C.O.D.

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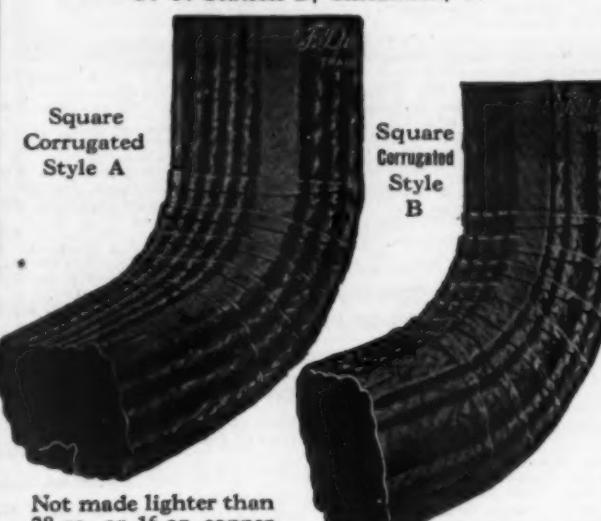
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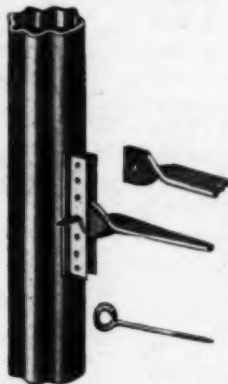
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Burgess Soldering Furnace Co.,
Columbus, Ohio
Diener Mfg. Co., G. W.,
Chicago, Ill.
Quick Meal Stove Co.,
St. Louis, Mo.
Ryerson & Son, Inc., Jos. T.,
Chicago, Ill.
- Trade Extension.**
Copper & Brass Research As-
sociation, New York, N. Y.
Sheet Steel Trade Extension
Committee, Pittsburgh, Pa.
- Trimming—Stove.**
Fanner Mfg. Co., Cleveland, Ohio
- Ventilators.**
Aeolus Dickinson Co., Chicago, Ill.
Akrot Ventilators, Inc.,
Chicago, Ill.
Arex Company,
Chicago, Ill.
Berger Bros. Co.,
Philadelphia, Pa.
Friedley-Voshardt Co.,
Chicago, Ill.
Kernchen Co.,
Chicago, Ill.
Lupton's Sons Co., David,
Philadelphia, Pa.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City
Standard Ventilator Co.,
Lewisburg, Pa.
- Ventilators—Ceiling.**
Hart & Cooley Co.,
New Britain, Conn.
Henry Furnace & Fdy. Co.,
Cleveland, Ohio
Tuttle & Bailey Mfg. Co.,
New York
- Windows—Steel.**
Lupton's Sons Co., David,
Philadelphia, Pa.
- Wire—Electrical.**
American Steel & Wire Co.,
Chicago, Ill.
- Wire Hoops.**
American Steel & Wire Co.,
Chicago, Ill.
- Wire Rope.**
American Steel & Wire Co.,
Chicago, Ill.
- Zinc.**
New Jersey Zinc Co., The,
New York, N. Y.

WANTS AND SALES

Yearly subscribers to the **AMERICAN ARTISAN** may insert advertisements of not more than fifty words in our Want and Sales Columns **WITHOUT CHARGE**.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired and must reach our office by Thursday of the week of publication. This privilege is not extended to manufacturers or jobbers—or those making a business of buying and selling used machines, employment agencies and brokers.

When sending advertisement state whether your name or blind number is to be used.

BUSINESS CHANCES

Lightning Rods—Dealers who are selling Lightning Protection will make money by writing to us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fixtures are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield, Wis.

For Sale—Sheet metal shop in California. Fully equipped with all tools necessary for fast work in the contracting line. 10 ft. steel brake, 4 ft. brake, 8 and 3 ft. square shears, 3 ft. rolls, two Ford trucks, benches and bench tools. I am manufacturing a metal specialty and can not devote my time to the contracting end of the business much longer. Address R475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

For Sale—Furnace and sheet metal business in southwest Missouri City. Town of 8,000. Stock, machinery, truck, price \$700. Building facing main street, can be bought or rented for \$20 a month. Work on hand now. Reason for selling, retiring. Address T475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

For sale or exchange in Chicago, well established good paying general sheet metal furnace and roofing business in excellent location with stock and full equipment. A fine opportunity for a live hustler. Selling on account of age. Address P475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

For Sale—Sheet metal shop employing five men. Doing industrial sheet metal work, well known and advertised good location and reputation. All around able man will make good. Located in Chicago. \$1,500 will handle. Address O475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

For Sale—Sheet metal and radiator shop—also roofing in good town of 4,000 population in Western Florida. Equipped to do all kinds of work. \$300 needed. Rest to suit purchaser. Address S475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

For Sale—Plumbing and tin shop in good live town. Good building and cheap rent on main street. Illness in family compels us to sell. \$1,000 will handle this if taken at once. Address G. M. Baugh & Son, Farmington, Ill. M475

For Sale—Sheet Metal & Radiator Shop. Good Stock and Fair Business. For quick sale, \$550.00. Address R-476, **AMERICAN ARTISAN**, 620 S. Michigan Av., Chicago, Ill.

BUSINESS CHANCES

For Sale—Only sheet metal, furnace and radiator repair shop in good South Dakota town of 3000. Well equipped shop doing good business. Reasonable rent. Half cash and balance on monthly payments. Address F-476, **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Ill.

SITUATION WANTED

Strictly sober, dependable, married, union sheet metal worker and warm air heating specialist desires connection with good live firm where quality work rules. Do layout work when necessary. Steady position in Colorado or adjacent states preferred. 30 years old. 14 years at business. Bellevue in Standard Code. Address J475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue Chicago, Ill.

Situation Wanted as working foreman by first class sheet metal worker in all branches such as comes to any job shop. Reads blue prints and figures work. Have handled all kinds of tin and sheet metal work for past 25 years. Considered A-1 mechanic. Can furnish best references and will go anywhere. Address P. O. Box 603, Weldon, N. C. X-476

Wanted—Sales connection with manufacturers by middle aged married man with road experience. Familiar with National Standard Code and fan installations. Indiana territory preferred, but not compulsory. State proposition clear in first letter. At liberty July 15. Address Z-476, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

In Chicago—Sheet metal estimator and salesman is looking for a new connection. Architectural and actual building experience along with education make him an ideal contact man. Address G-475, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

Sheet metal worker and repair man for such as plumbing, steam fitting and boiler repairs with 15 years of experience wants steady position. Capable and steady. Address H475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

Situation Wanted—By a sheet metal worker. Can work from blue prints and cut patterns for anything in building line. Address J-476, **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Ill.

Situation Wanted by young tinner and furnace installer. Fully experienced. Wisconsin or Illinois preferred. Address Y-476, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

HELP WANTED

Wanted—A workman foreman around 40 years of age that can take charge and run a first class medium sized Sheet Metal Shop. Steady work guaranteed to a live wire. Don't answer unless you can fill a position of this kind. Address P. O. Box 123, North Emporia, Virginia. G-476

Help Wanted by Established Hardware—Experienced man capable of handling plumbing, sheet metal, pump and windmill work. Good chance for steady, reliable man in desirable village in northern Illinois. State particulars. The Cullison Hardware Co., Hebron, Ill. K475

Sheet Metal Worker and Furnace Man Wanted—Would like mechanic who can also do plumbing. State experience and whether married or single and wages wanted. Address C. W. Beer, Alexandria, Nebr. L475

Wanted—All around hustler in Sheet metal, plumbing and furnace shop. One who can drive a car, and a single man preferred. Address O. L. Doward, Box 115, Mt. Morris, Ill. H-476

Furnace Salesmen Wanted—We have an opening for at least two first class furnace salesmen. Splendid opportunity to those who can qualify. Address 126 S. Water St., Owosso, Mich. W-476

TINNERS' TOOLS

For Sale—36" Queen City Square Shears; 30" Keystone bar folder; 37" Niagara slip rolls; 8 foot brake. Some bench tools. These were bought new and used very little. Write for list and prices. E. Haverstock, R. R. No. 8, South Bend, Ind. W475

Will Trade—We have a 5 foot box brake that will handle metal from 14 gauge up, which we will trade for an 8 foot or 10 foot (10 foot preferred) cornice brake. Address G. & S. Stove and Furnace Co., 4224 W. North Avenue, Chicago, Ill., Telephone Albany 7591. X475

For Sale—Full set of tinner's tools including crimper, set of rolls and burning machine, 8 foot Dreis & Krump Brake. Must be sold at once. You can get these at a bargain. Address L-476, **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Ill.

For Sale—One No. 116 Junior Spot Welder. 220 volt. 60 cy. Made by The Federal Machine & Welder Co. Address Neosho Plumbing, Heating and Mfg. Co., Neosho, Mo. K-476

For Sale—8 foot Chicago Steel Cornice Brake in first class condition. In Central Illinois. Price \$89.00. Address M-476, **AMERICAN ARTISAN**, 620 South Michigan Avenue, Chicago, Ill.


Want to buy cornice brake and bench machines. Price must be right. Address Y475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

Wanted—Good Second Hand 8 or 10 foot brake. Also 30 inch square shear. State price and condition. Address A. J. Schultz, Kimball, Nebr. O-476

MISCELLANEOUS

Patents for Sale—Outright or royalty on Heating Appliance for Radiant Heaters and Furnaces. Practical pre-heating and air warming features. Also patent on Radiant fireplace heater. Smoke consuming and powerful heating features. Removes cold air from floor. Easily installed as complete fireplace or in any fireplace. Full particulars on request. Address Z475, **AMERICAN ARTISAN**, 620 S. Michigan Avenue, Chicago, Ill.

Anyone knowing the whereabouts of Janus Lee Modrell, plumber, kindly notify Olive Fisher, 246 Grand Av., Grand Junction, Colorado. T-476



Pat. Applied For

TEST ITS PULLING POWER AND NOTICE ITS EFFICIENCY

A Quality Product

Write for Information and Prices.

AKKRAT VENTILATORS, INC.

1191 Builders Bldg. CHICAGO

TINNERS' TOOLS

For Sale—One 30-inch stove pipe folder, New—\$25.00. Address J. J. Martin, Chamolis, Mo. S-476

**We Have Just Received
A Large Shipment of**



**SHEET METAL WORKING
MACHINES
and Hand Tools**

We Have the Largest Assortment of
NEW and USED Machinery and Tools
IN CHICAGO

? WHAT DO YOU NEED ?

INTERSTATE MACHINERY CO.

Formerly
TINNERS' MACHINERY CO.
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"Service That Satisfies"

SPECIAL NOTICES

**The Rate for Special Notices
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\$3.00 per inch per insertion**

When sending copy state whether
your name or blind number is to be
used—also how many insertions are
desired.

PATENTS

HUBERT E. PECK
Patent Attorney
Barrister Bldg., WASHINGTON, D. C.

IN CHICAGO**SHEET METAL ESTIMATOR
AND SALESMAN**

is looking for a new connection. Architectural and actual building experience along with education make him an ideal contact man. Address G-475, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

AREX
Original
Siphonage
Ventilator

The
**Power
Fans**
Only Rival!

200,000 Perfect
Installations!

Write for prices today
AREX COMPANY 333 N. Mich. Ave.
CHICAGO

SPECIAL NOTICE**SALESMAN WANTED**

to sell ventilating equipment of exceptional merit. We are interested only in a good live representative who can produce results — commission basis. Address F473, AMERICAN ARTISAN, 620 So. Michigan Ave., Chicago, Ill.

WANTED

District Sales Manager: We are looking for two or three men with records of business getting ability competent to direct sales in a territory with two or three men under them. Must be practical warm air heating men thoroughly familiar with the Standard Code. References must be A-1. If you can meet the requirements write or wire. Lennox Furnace Co., Inc., Syracuse, New York. B476

SPECIAL NOTICES**WANTED**

Two or three high class energetic salesmen to act as District Sales Managers. Must have a proven record of past accomplishments as salesmen above the average. Compensation accordingly. Address Lennox Furnace Co., Marshalltown, Iowa. A476

WANTED

Furnace salesman to handle as sideline, an item that sells to nine Furnace Dealers out of ten. See liquid asbestos on page 163, B. & F. Mfg. Co., Des Moines, Iowa. C-476

Salesmen Wanted

We want capable, ambitious men, with or without selling experience, interested in making \$100.00 per week, and more. Men with knowledge of warm air heating systems will be given preference. The Automatic Drip Humidifier meets a need that has been recognized for years. Protects health; saves fuel. No warm air furnace complete without this device. We have an excellent opportunity for men who can sell to dealers or who are interested in establishing a local business for themselves. Address Automatic Humidifier Co., Cedar Falls, Iowa. E-476

**The STANDARD CODE--
--COMPUTING RULE**

adopted from the

STANDARD CODE

"Your Estimates Will Be Right"

An Engineer's, Salesman's and Estimator's device for figuring warm air heating systems.

Simple to operate—instructions easily understood.

Your results can be had without a single DIVISION, MULTIPLICATION or ADDITION problem, as required in Article Three of the Code. Not a chance for a mathematical error.

If you have not already purchased your Computing Rule, do so RIGHT NOW.

Your satisfaction is assured.

Write for our descriptive circular.

STANDARD CODE COMPUTING RULE CO.
P. O. Box 730A—Baltimore, Md.



"You see, I have to do things big, judging by the size of my family," writes a student on the back of a kodak picture similar to the above. He adds: "Nothing small about me, I got through being a cheap mechanic when I took your course, and my business has grown wonderfully since, and I feel I really owe it to the St. Louis Technical Institute."

LEARN TO BECOME A CONTRACTING ESTIMATOR SALESMAN!

Shops are now putting on Salesmen to do Estimating and bring in the work. The one-horse shop will have to struggle harder as time goes on. Some shops employ as high as 12 Estimators and pay from \$35 up to \$75 a week. It is the one big opportunity for ambitious men.

OPPORTUNITY IS CALLING YOU—PREPARE NOW

Our Studies in Estimating have just been rewritten and redrawn and represent the last word in all branches of Sheet Metal Estimating and Contracting. It is for Mechanics, Salesmen, Foremen, Employers, Manufacturers, etc.


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- ☐ SHEET METAL DESIGN AND PATTERN DRAFTING
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ST. LOUIS TECHNICAL INSTITUTE O. W. Koths, Prin. 4543 Clayton Ave., ST. LOUIS, MO

Trade **Verson** Mark

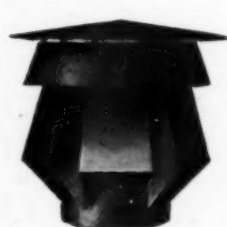


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Die Problems for You.
No Obligation

WRITE FOR CATALOG D 10-27
WHICH SHOWS NUMEROUS SHAPES

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3019 SO. LA SALLE ST., CHICAGO



**ÆOLUS
FOR HOMES**

The home should be properly ventilated—few of them are. Here is a sales opportunity often overlooked by the average Sheet Metal Worker, but one which offers a lucrative business to those who take advantage of it.

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Vent Makers Since 1888
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CHICAGO
Phone: Lafayette 1862-1863

The 12-Cylinder Ventilator
Used in Every State
in the Union.

**SPECIFY ÆOLUS
VENTILATORS**

The **NEW IMPROVED** "STANDARD"
ROTABLE VENTILATOR



Patented

THIS favorite ventilator has been further improved to insure—

New made of **ARMCO IRON**

Greater Durability
Quieter Operation
Greater Efficiency
Better Balance

The New Cone-top Suspension, new Bronze Guide Bushings, and Cross Braced Skirt are the new features.


Let us tell you in detail all about this better ventilator.

Write for special circular and prices today

"Standard" Ventilator and Chimney Cap—
Most Efficient Combination on the market.

STANDARD VENTILATOR CO., **LEWISBURG, PA.**

Improved Models of Soldering Furnaces



Have you seen the improved models? The greatest line of Soldering Furnaces today on the market. They should be. There is more experience behind them. Forty-eight years of it! The Gems were popular before the majority of present day furnaces were heard of. It is the oldest, the recognized standard Soldering Furnace today.

Look these models over. Each sets its class. Line them up and take your choice.

Do you want a Catalog?

**BURGESS SOLDERING
FURNACE CO.**
Department A COLUMBUS, O.

Improved No. 3 Gem with Pump

**LIQUID
ASBESTOS**

Something Better and Entirely Different

ELIMINATES THE USE OF ASBESTOS PAPER
Liquid Asbestos is a white covering for old and new furnaces

IT'S FIRE AND WATERPROOF
MAKES ALL PIPES AND FITTINGS 100% SEAMLESS

A tailor made suit for every furnace—it spreads with a brush

Never in all furnace heating history has anything so completely jumped into such popularity

LIVE WIRE FURNACE DEALERS ARE INCREASING THEIR SALES WITH THE USE OF LIQUID ASBESTOS

Ask your Supply Jobber or write for Dealer's Proposition today

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DES MOINES - IOWA

A Revolution In Gutter Hanging



Made of galvanized iron or copper. To use this hanger cut no stays, use no solder, thumbbolts or rivets. Its hinge movement enables adjustment at shop. Nothing to do at building but drive nail. Make joints in the bead of gutter with hanger adjusted without catching under the eaves. Stay wire being adjustable, it will hang any kind of hanging eave trough, OG or Box Gutter.

Made in sizes 3, 3½, 4, 4½, 5, 6, 7, 8 and 10 inches.
Packed 1 gross in a package.

THE HORAN STAY HANGER CO., Louisville, Ky.

WIRE electrical, rope, barbed, plain, nails (bright and coated), tacks, spikes, bale ties, hoops, springs, netting, wire fences, steel posts, steel gates, trolley wire, rail bonds, flat wire, cold rolled strip steel, piano wire, round and odd-shape wire, screw stock, welding wire, concrete reinforcement. Aerial tramways.

Illustrated books describing uses, **FREE**

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CHICAGO STEEL SLITTING SHEAR

**LIGHT—POWERFUL
DURABLE**



Capacity 10 gauge sheets
Any Length or Width
Flat Bars 3/16x2"
Weight 22 pounds

Price \$12.50 Net
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Made of pressed steel and equipped with hold-down. Blades of highest grade crucible steel. Most indispensable high grade shears made. Equal to other shears selling at over twice the price. **ORDER YOURS TODAY.**

DREIS & KRUMP MFG. CO., 7404 Loomis St., Chicago

MILCOR ELBOWS

Quality
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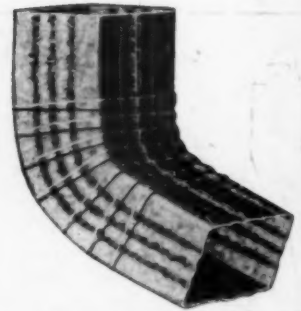
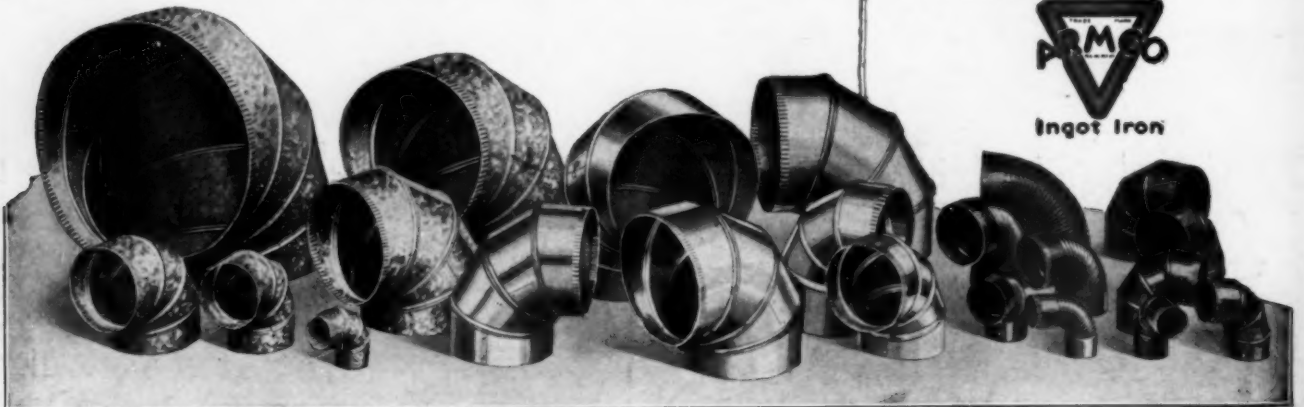
LOOK for the name "Milcor" and the figure designating size, which are embossed on every Milcor Rain Conductor Pipe Elbow. Whenever, wherever you order, specify Milcor and insist on the genuine. For your own protection and for the good-will of your customers, specialize on the complete Milcor Line. Milcor ONEPIECE Conductor Pipe Elbows are double-coated, hand dipped after formation, neatly and safely packed in fibre containers to insure their arrival in finest condition.



TWENTY-FIVE YEARS of manufacturing service and cooperation with the sheet metal trade has resulted in Milcor's development to the point where we are now the world's largest producers of elbows. Whether it be Rain Conductor Pipe Elbows, Furnace Pipe Elbows, Stove Pipe Elbows or Speaking Tube Elbows, you can always depend on Milcor for the best.

Leading jobbers everywhere carry the Milcor Line of Eaves Trough, Conductor Pipe, Trimmings, Roofing, Furnace Pipe and Fittings, Stove Pipe and other famous Milcor Products in stock — or you can secure quick service also direct from our main plant at Milwaukee or any of our branches.

MILWAUKEE CORRUGATING COMPANY, *Milwaukee, Wisconsin*
CHICAGO, ILL. KANSAS CITY, MO. LA CROSSE, WIS.



Milcor ONEPIECE Conductor Pipe Elbows

Plain Round—Corrugated Round—Corrugated Square — Galvanized after formation



Kuehn's Korrekt Kutoffs

Plain Round—Corrugated Round—Corrugated Square — Galvanized after formation



Conductor Pipe Funnels

Corrugated Round Plain Round



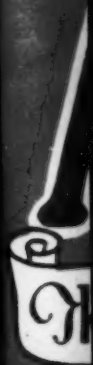
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All Milcor Products now available in Steel, "Coppered Metal", Zinc, Anaconda Copper or rust-resisting



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